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Modifying Oil & Gas Documents for Horizontal Drilling

17 July 2012



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Our Locations



- All examples from 1989 AAPL Form 610
 - Two biggest issues:
 - Completion election in Article VI.C.1.
 - Non-consent issues.
 - Should a WIO who has gone non-consent in a horizontal well be able to participate in (i) a subsequent lateral using the same vertical wellbore; (ii) a subsequent decision to lengthen an existing wellbore, or (iii) a decision to drill a stacked lateral.

- Completion election
 - Option 1: Initial election applies to both drilling and completion.
 - Option 2: Separate election at completion
- Most horizontal wells are completed and the cost of completing is most often greater than the drilling costs. Drilling is in a blanket formation; there is no practical point at which a WIO can or should have an election to participate or not participate.
- Suggestions:
 - Option No. 1: All necessary expenditures for the drilling, Deepening or Sidetracking, testing, Completing and equipping of the a horizontal or multi-lateral well, including necessary tankage and/or surface facilities.

- Completion Elections, continued:
 - Option No. 2: All necessary expenditures for the drilling,
 Deepening or Sidetracking and testing of the <u>a vertical</u> well [using old Option No. 1]
 - Option No. 3: All necessary expenditures for the drilling,
 Deepening or Sidetracking, testing of a <u>vertical</u> well.
 When such well has reached its authorized depth . . .
 [continue with old Option No. 2].

Definitions

- Completion.
 - » Now "single operation intended to complete a well as a producer of Oil and Gas in one or more Zones, including, but not limited to, the setting of production casing, perforating, well stimulation and production testing conducted in such operations."
 - » Since the completion of horizontal well is, with multistage fracs, never a single operation, the definition seems inaccurate.

Completion

- Art.VI.B.2.b. Non-consent election followed by an inability to reach TD (impenetrable substances) and the extension of an election to the nonconsenting parties to participate in the completion in a shallower zone.
 - Some difficulties:
 - » Already some producing perforations
 - » Are you really going to complete in a shallower zone?
 - » Do you want to let a non-consenting party into the well at that point?

Deepening. Article VI.B.2.4.a

- If the parties decide to deepen a well, the non-consenting party has the right to participate upon paying its share of costs incurred up to that point. In the definitions, "deepening" is defined as "a single operation whereby a well is drilled to an objective Zone below the deepest Zone in which the well was previously drilled, or below the Deepest Zone proposed in the associated AFE, whichever is the lesser."
- Some modify definition of deepening to include lateral extension of the wellbore.
- Problem: non-consents get back into well if deepened but no way to separately measure production from extended portion.
 - In a horizontal, you will never meet the test of drilling to a deeper zone.

Plug back.

- Limited to "a single operation whereby a deeper Zone is abandoned in order to attempt a Completion in a shallower Zone."
- Horizontal wells might be plugged back not helpful.
- Modifying the definition to include, for a horizontal well, any reduction in the length of a lateral in a well may be be helpful.

- "Recompletion"

- "an operation whereby a Completion in one Zone is abandoned in order to attempt a Completion in a different Zone within the existing wellbore."
 - Recompletion in a horizontal well is most likely to be attempted in the same Zone, so the definition is not helpful.
 - Re-fracing a particular portion of the wellbore may be desirable, allowing one party to elect not to participate raises the specter of how one is going to measure the production attributable to that re-fracing.
 - Suggestion: Owner desiring not to participate should lose all production in the wellbore until the non-consent penalty has been recovered.

- Recompletion continued:
 - If sit out provision not acceptable
 - Parties should agree on a formula for allocating production according to the length of the lateral or according to the relative number of take points involved.
 - Technological advances unforeseen.
 - » Either falling out of the wellbore altogether or recovering a non-consent penalty from all production in the wellbore.

Reworking

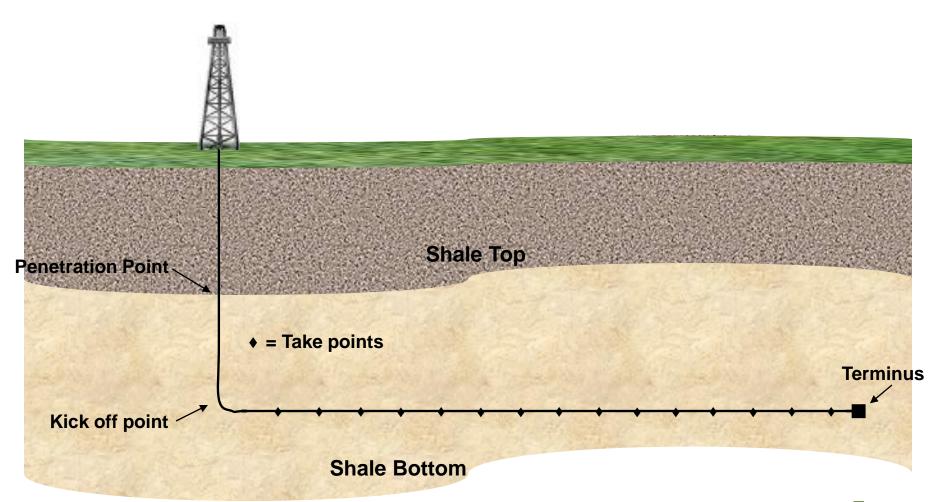
- "an operation conducted in the wellbore of a well after it is Completed to secure, restore, or improve production in a Zone which is currently open to production in the wellbore."
- Horizontal drilling technology may well require the re-fracing of a well
 - Rock may strengthen as hydrocarbons are removed
 - New frac may open fractures in rock containing additional hydrocarbons not accessed in the first frac.
 - The options granted by the JOA with respect to "reworking" are like "deepening."
 - Suggestion: Party not desiring to participate in a rework of a horizontal well should fall out or suffer non-consent penalty as to entire production stream.

Additional Definitions:

- Using Rule 86 makes sense.
- Horizontal drainhole--That portion of the wellbore drilled in the correlative interval, between the penetration point and the terminus.
- Horizontal drainhole displacement--The calculated horizontal displacement of the horizontal drainhole from the penetration point to the terminus.
- Horizontal drainhole well--Any well that is developed with one horizontal drainholes having a horizontal drainhole displacement of at least 100 feet.

- Additional Definitions, continued:
 - Penetration point--The point where the drainhole penetrates the top of the correlative interval.
 - Terminus--The farthest point required to be surveyed along the horizontal drainhole from the penetration point and within the correlative interval.

Illustration of Rule 86 Definitions



- Article III Interests of the Parties.
 - Assume parties agree on Exhibit A regardless of wellbore length or ratio of take points.
 - If party contributes a lease
 - If that lease has a higher royalty burden, and the contributing party is required to pay for the royalty in excess of certain amount, how does that contributing party know how much production to allocate to its lease on which it must pay royalty?

Titles

- Each tract penetrated is a drillsite.
 - Examination should be conducted on each such tract and should have been accepted by the Drilling Parties as provided in Article IV.A., page 3, line 3 through 6.
 - If the party contributing a lease must cure the title but is unsuccessful, does the provision requiring that party to bear the entire cost of the loss, adequately addresses the problem?
 - If the title that failed is for a tract in the middle of the lateral wellbore, does the obligation to "bear alone the entire loss," include the loss of the lateral wellbore beyond the lost tract, and/or the cost to re-drill to bypass the tract?

Seagull case

- Seagull was Operator. Eland was a former WIO in an offshore lease that had assigned its interests in lease shortly before plugging and abandonment costs were to be incurred. Eland's assignee declared bankruptcy. Operator sued. Texas Supreme Court held that JOA language on transfer not enough to release party from obligations incurred after assignment.
- All WIOs who assign all interest in leases subject to JOA remain liable for future costs incurred unless get a specific release.
- Significant future liabilities if industry has downturn.

- Language for Seagull case.
 - A sale of all (or a proportionate part) of one party's interest in the Contract Area acts as a release of any claims, obligations or liabilities accruing after the effective date of the sale except as to any interest retained by the assigning party. The Parties intend to reject the conclusion reached in the case of Seagull Energy E&P, Inc. v. Eland Energy, Inc., 207 S.W.3d 342 (Tex. 2006).

- Additional Suggestions and Questions:
 - Article VI.B.1. Identify any additional information that should be provided when proposing a horizontal well.
 - What should the non-consent penalty be for a horizontal well?
 - Sit out, fall out?
 - Non-Consent penalty on entire operation, but how much?
 - How do you provide for multi-laterals, stacked wells, and multiple completions? Separate proposals?
 - Remember, unless you incur substantial additional expenses you cannot separately measure production from each lateral, etc.

Article VII.D.3.

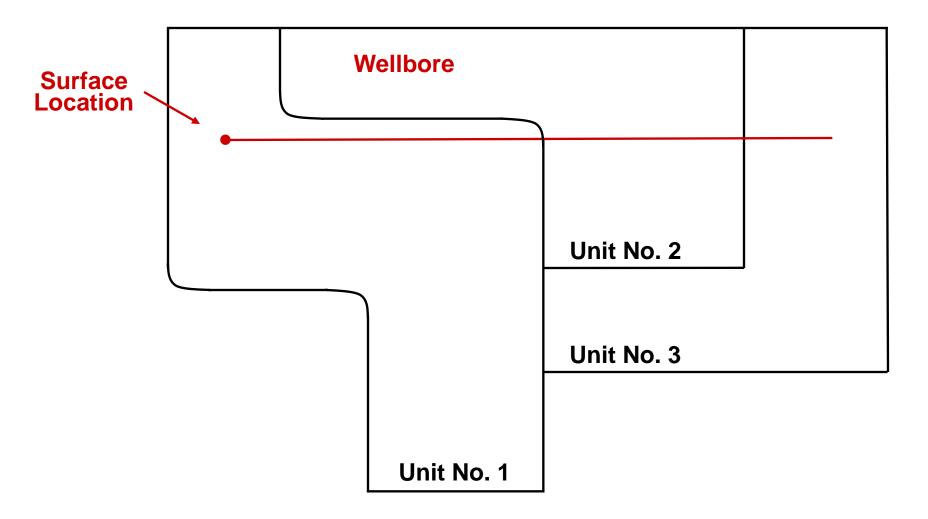
- Operator has right to put the non-paying party into a deemed non-consent posture under Article VI.B (Subsequent Operations) or Article VI.C. (Completions, Reworking and Plugging Back).
 - Rather than limit the impact of the non-payment deemed nonconsent to a specific operation, it probably should apply to the entire horizontal well.
 - Otherwise, one could never be sure when there was a recovery with respect to a particular operation because of the inability to separately calculate production attributable to that operation.
 - Alternative:
 - Operator may determine the amount of production attributable to that operation or
 - WIOs may consent to allocation based on (i) relative length of the wellbore, (ii) take points, or (iii) an agreed upon third party engineer (following the statutory binding arbitration rules).

- Limits on liability of WIO in the event AFE is substantially exceeded.
 - If WIO has right to a consent/non-consent election during an operation
 - Cannot measure the revenues attributable to the operations before the AFE is exceeded
 - Provision unworkable.
 - Options
 - (i) Terminate operations if the AFE is exceeded by a certain percentage,
 - (ii) Allow the WIO non-consent election and surrender income from entire wellbore until recover non-consent penalty from the entire well, all of the excess costs plus a non-consent penalty, or
 - (iii) sit-out, fall out.

COPAS

- How do you allocate drilling overhead during multistage fracs?
 - Should clarify that drilling overhead prevails as long as operations being conducted in the well.
 - Daily allocation?
- Production Sharing Agreements
 - Creature of non-published RRC policy.
 - Reflects willingness of RRC to work with industry to figure out how to produce from horizontals in shales.
 - Operator forms "production sharing agreement" with consent of 65% of the WI and RI
 - Allow the operator to treat the production sharing agreement as a single drillsite tract.

PSA – Single Drillsite



Primary Term

- Typically, the lessee must be conducting operations on the lease or on a unit including the lease in order to continue the lease past the primary term.
- Not so in the Manzano case (178 F. Supp.2d 1217 (D.N.M. 2001)).
 - Lease near end of its primary term, 8/3
 - Chesapeake spudded a well on the adjoining tract on 7/27; no pooling designation filed.
 - 8/12 bit penetrated the subsurface of the leased tract.

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– Court:

- Two lease provisions extended lease the lease past the primary term by the commencement of operations off the leased premises:
- ¶5 Defendant is "granted the right . . . to pool or combine this lease...." and "Drilling operations on or production from any part of any such unit shall be considered for *all purposes*, ... as operations conducted upon ... the land described in this lease."
 - But D did not actually exercise the pooling right.

– Court:

- D timely began "drilling operations" on the tract adjacent to the lease.
- Operations on the off-lease property should be included as "drilling operations."
- "The intent of the parties ... would permit the drilling of the horizontal well and would allow for the extension of the Lease under the circumstances here presented."

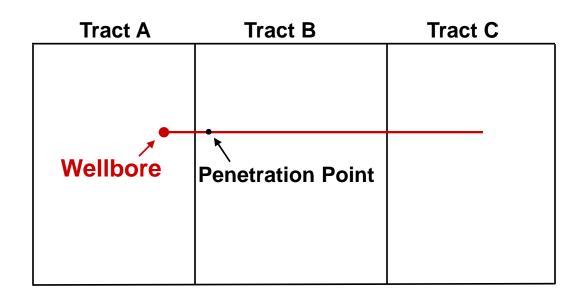
– Court:

- Ps argued "on the strained rationale" that the well had to be solely on the Leased land; that would work a forfeiture on Defendant.
- Find that adjacent property and the Lease property were "pooled" or "combined" in such a way as to make the provisions of paragraph five of the Lease applicable.
- Caution: Probably not a good idea to risk a well based on this case. Contrary to longestablished authority but not involving horizontal wells.

General Principles:

- If more than one lease, have to pool.
- No grant to use surface for benefit of adjoining tracts.
- Cannot transport oil or gas across tracts.
- With surface owner's consent can use a tract as drillsite if no mineral production and does not interfere with mineral owner's anticipated use.
- Each tract traversed by the horizontal wellbore is a drillsite tract, and each production point on the wellbore is a drillsite.

Consent Matrix



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Brilling and Production Consents from Surface Owner Yes Nos Nos Yes Yes Yes Yes

- Schetroma and EMLF Drafts Suggested Language
 - Decisions as to when, if ever, a horizontal well may be appropriate for production from any formation is and shall at all times remain within the sole and absolute discretion of the Lessee, its successors and assigns.
 - Grants Lessee
 - Use premises as drilling location.
 - Right to drill through the leased premises.
 - Right to perform such completions and simulations in and from any horizontal bore.
 - Any vertical or horizontal bore made upon the leased premises as part of a horizontal well the vertical bore of which is on the leased premises or any other premises shall be and shall be deemed to be a well drilled upon the leased premises for all purposes of this lease.

The Pooling Provision

- The *Browning* case (Browning Oil Co., Inc. v. Luecke, 38 S.W.3d 625 (Tex.App. Austin 2000)).
 - 1979 Leases in Fayette County, Texas
 - Standard pooling provision with sharing based on proportion of acreage in unit.
 - if any pooled unit is created with respect to any well drilled on the land covered hereby, at least sixty percent (60%) of such pooled unit shall consist of the land covered hereby.

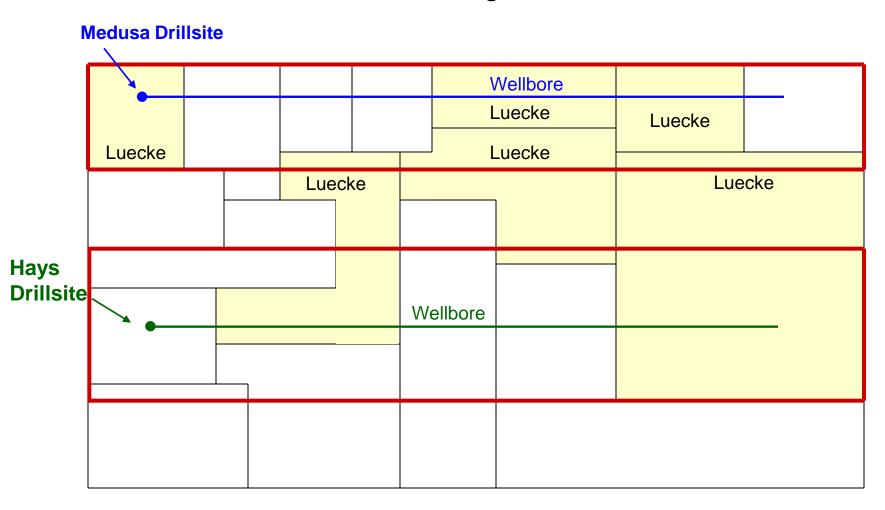
Browning

- Lessee requested this change:
 - In addition to the provisions for pooling, combining or unitizing as contained in Paragraph 4 of the Lease, in the event Lessee, its successors or assigns, should exercise its right and power, in its sole option and discretion, to pool, unitize or combine the lease premises or any portion thereof with other lands in order to form a unit or pooled unit containing a well with a horizontal drainhole, as defined herein, such unit or pooled unit may, within the discretion of Lessee, its successors or assigns, contain the greatest acreage allowable to the extent prescribed or permitted by the Railroad Commission of Texas or other governmental authority having jurisdiction . . .

Browning

- Lessors refused to modify.
- Lessee drilled anyway; 60% of the pooled units did NOT consist of Luecke's land.
- Luecke sued.
- Lessee's defense:
 - In order to drill horizontal wells, Lessee was entitled to ignore the lease provision so long as complied with horizontal drilling rules.

Browning Case



Medusa Urhitayes9Utaites 346. AckesTractecke68 ractes 134% desistsi827 raktequ83 ed 60% Required 60%

Court

 Parties to oil and gas leases must strictly comply with its terms. Such compliance applies to pooling clauses.

Browning

Court:

- breach "rendered the pooled units invalid with respect to the Lueckes' land."
- Without valid pooled units, the leases do not and cannot award the Lueckes royalties on oil and gas produced from tracts they do not own.
- Rule of Capture does not apply because: (1) the geophysical characteristics of the formation actually inhibit the natural drainage underlying the rule of capture, (2) production from multiple drillsite tracts is involved, and (3) the fractures contributing to production are not all adjacent to any single drillsite.

Browning Case

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Medusa Unit 839 Acres Luecke Tracts 268 acres 31% Drillsite Tracts 83 ac 10% Required 60% Hayes Unit 346 Acres Luecke Tracts 114 acres 32% Required 60%

Browning

- Court considered:
 - (1) Lessees should not be allowed to ignore anti-dilution provisions with impunity, and (2) The immense benefits that have accompanied the advent of horizontal drilling, including the reduction of waste and the more efficient recovery of hydrocarbons:
 - "Draconian punitive damages for a lessee's failure to comply with applicable pooling provisions could result in the curtailment of horizontal drilling. We decline to apply legal principles appropriate to vertical wells that are so blatantly inappropriate to horizontal wells and would discourage the use of this promising technology. The better remedy is to allow the offended lessors to recover royalties as specified in the lease, compelling a determination of what production can be attributed to their tracts with reasonable probability."

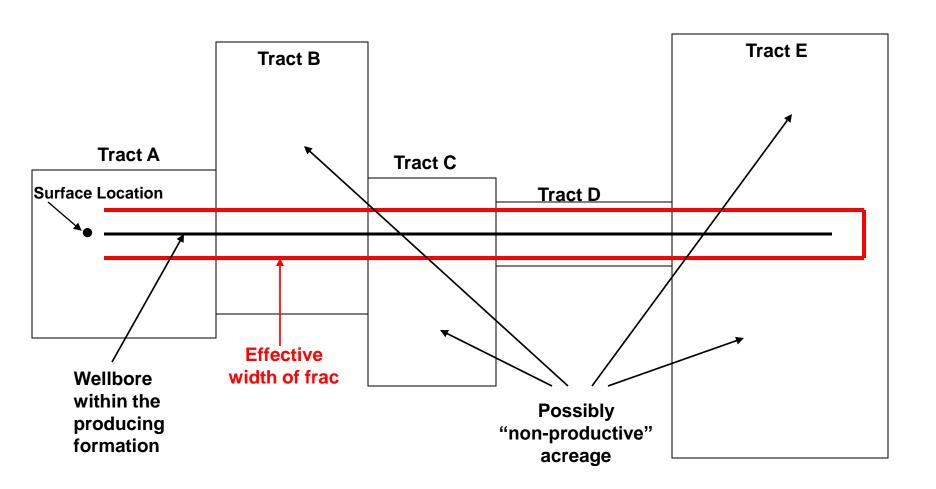
- Browning
 - Court:
 - Remanded for determination of damages.

Pooling Clauses

- Do four things
 - Allows the sharing of production and operations across lease lines.
 - Allows operations on one tract to qualify as operations on any pooled tract.
 - How much of the lease acreage may be included in the unit.
 - How production from each tract will be shared with the other tracts.

- Texas Railroad Commission does NOT specify the maximum acreage in a unit; that is determined by the lease.
- Lessees still constrained.
 - Must be in good faith
 - "Since his interests frequently conflict with those of his lessor, however, he must exercise the power in fairness and in good faith, taking into account the interests of both lessor and lessee."
 - Including non-productive acreage may not be in good faith.

Non-Productive Acreage

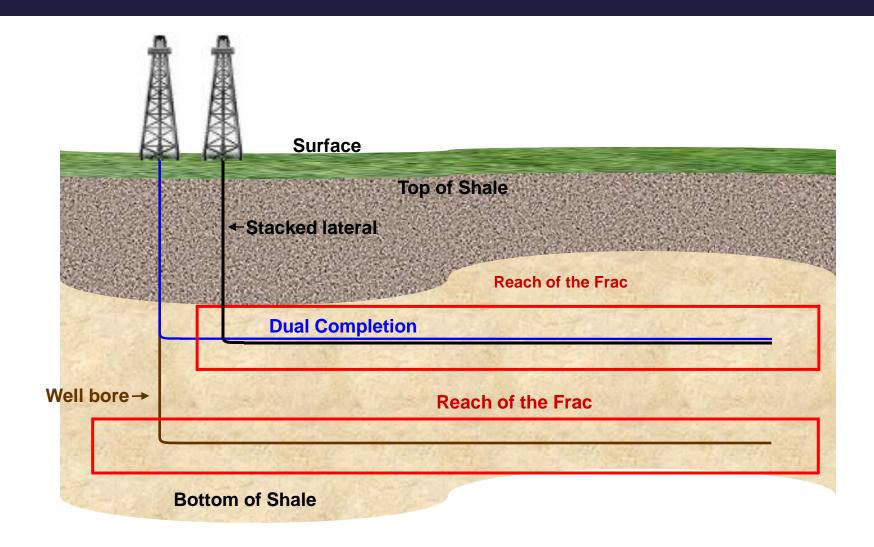


Pooling

- Marshall ("Land Problems Related to Horizontal Drilling in Texas" *Landman*, July/August 2008, page 47, at 65-66)
 - The operator must be certain that the retained acreage clause will allow the retention of all acreage covering the horizontal drainhole and the surface location. Tying the retained acreage amount to the acreage prescribed by RRC rules or acreage required for maximum allowable may create undue restrictions for the lessee. Instead, the operator should tie the amount of the retained acreage to the acreage operators are permitted to assign to the well. A fixed amount of acreage is even better as long as the fixed amount is equal to or greater than the amount allowed by the RRC rules.
- Might add: "are permitted to assign to the well for filings with the Railroad Commission."

- The deep shale.
 - What part to drill? Low, middle, high.
 - Frac not likely to reach top and bottom of thick shale.
 - Lessor:
 - should the lessor make some requirement with respect to the development of all portions of the shale? Do not know if your shale is productive in its entire depth and the lessee may not know either. Technical ways to fully develop a thick shale such as dual completions and stacked laterals. Will the lessee be required to develop the remainder of the shale?

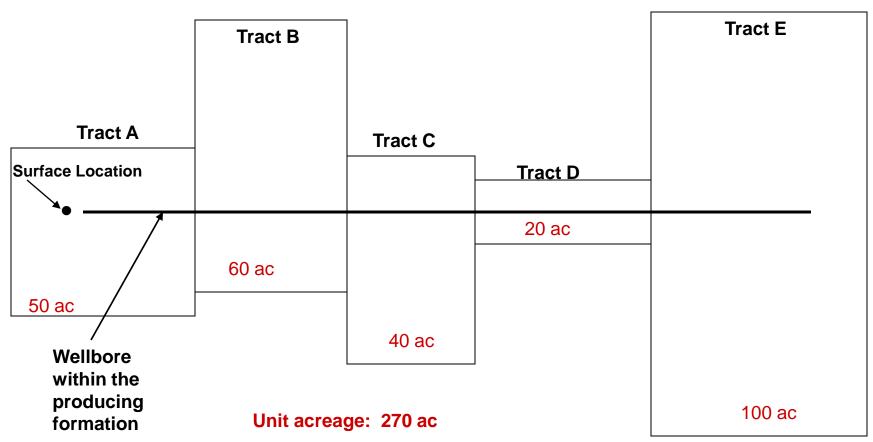
The Really Thick Shale



Allocation factors

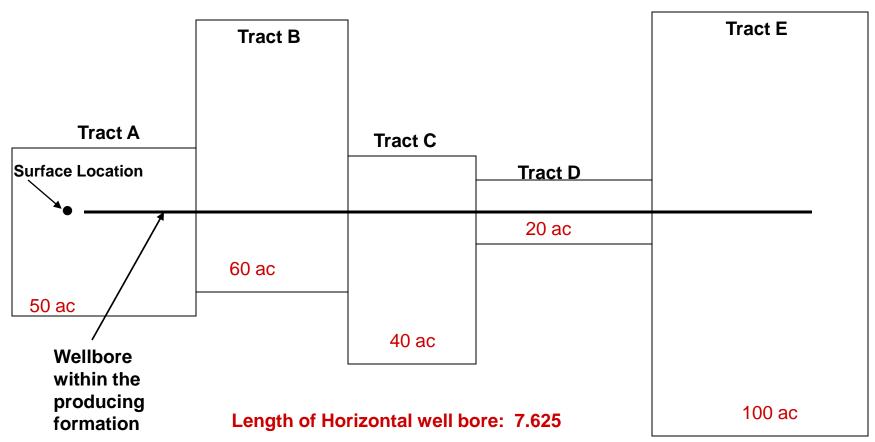
- Most extant leases
 - The traditional sharing formula in the pooling clause is based on the acreage in the lease in question divided by the total acreage in the unit = the percentage of total production from the unit to which that lease is entitled.
 - May not work in a horizontal well.
 - But if Lessee agrees to different pooling provisions may pay royalty on more than 100% of production.

Allocation Factors Acreage



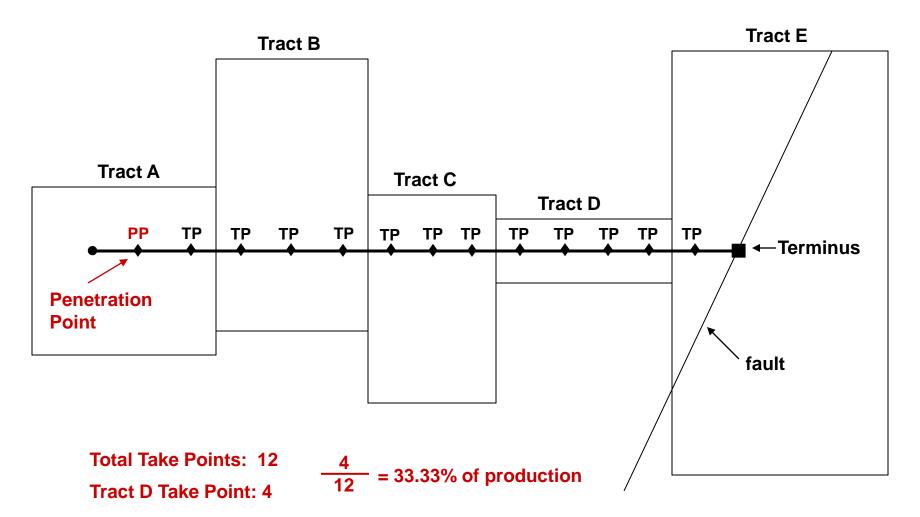
Tract D: $\frac{20}{270} = 7.4\%$ of production

Allocation Factors Wellbore Length



Tract D: $\frac{1.75}{7.625}$ = 22.95% of production

Allocation Factors Take Points



- Schetroma/EMLF suggestions:
 - As to any horizontal well affecting the leased premises, Lessor shall be compensated at the royalty set forth in paragraph _____ for that portion of the production from the horizontal well that Lessee, in its reasonable discretion, determines to be attributable, from time to time, to the leased premises.
 - Within _____ of placing any horizontal well into market, Lessee shall provide Lessor with the calculations by which Lessee proposed to allocate production from that horizontal well among all Lessors of leases which will be held in secondary term by such production. Any disputes between Lessee and any Lessor concerning any such allocation shall be resolved in accord with the provisions of paragraph ____ of this Lease.

– Schetroma/EMLF suggestions:

 Lessor agrees that the complexity and expense of the drilling, completion and operation of a horizontal well requires that some land be utilized for vertical boring, other land for horizontal boring, other land for uncompleted recovery, other land for recovery through completions thereon and some land for recovery with no operations, boring or completion thereon. No land affected by the horizontal well would benefit from oil or gas operations without use of and impact upon all other land affected thereby. Lessor agrees that Lessor shall receive that portion of the royalty provided in paragraph ____ of this lease upon all production from any horizontal well affecting the leased premises that is equal to the relative percentage of the surface acreage of the leased premises to the surface acreages of all leases held by production from the subject well.

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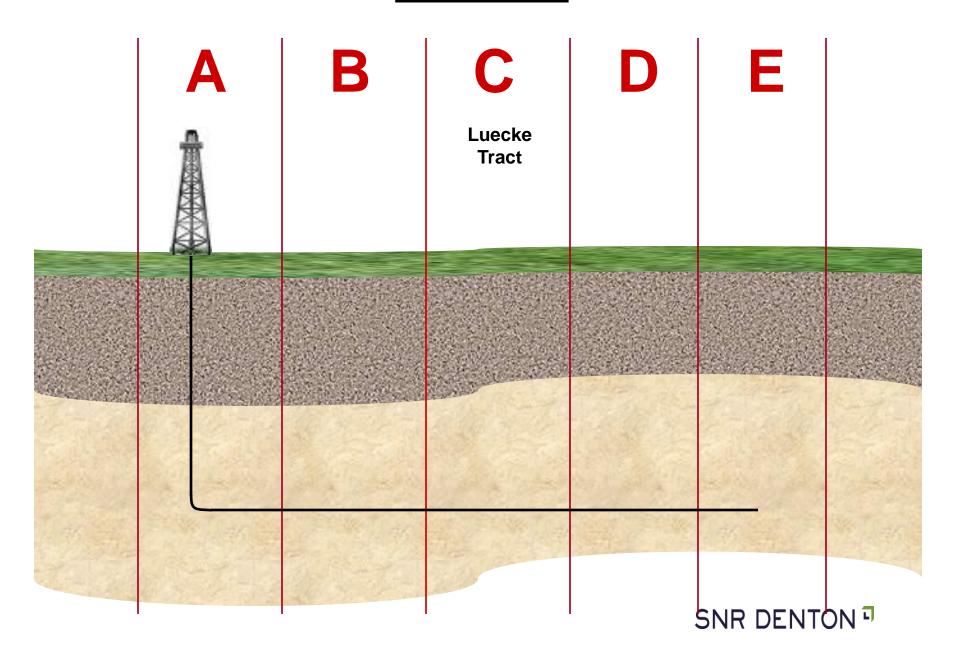
- Schetroma/EMLF suggestions (alternatives):
 - Lessor agrees that Lessor shall receive that portion of the royalty provided in paragraph ____ of this lease upon all production from any horizontal well affecting the leased premises that is equal to the relative percentage of the length of the bore of the well through the leased premises to the total length of the bore of the entire well upon of all leases held by production from the subject well. Vertical and nonproductive bore-through lengths shall be included in all calculations implementing this paragraph.

– Schetroma/EMLF suggestions (alternatives):

 Lessor acknowledges that some parcels subject to any horizontal well will be more completely drained than others based upon the design, completion and operation of the well and that a major factor leading to enhanced drainage is whether any completion(s) is/are made upon each tract. Lessor agrees that Lessor shall receive that portion of the royalty provided in paragraph ____ of this lease upon ____ percent of all production from any horizontal well affecting the leased premises that is equal to the relative percentage of the length of the bore of the well through the leased premises to the total length of the bore of the entire well upon of all leases held by production from the subject well. Vertical and non-productive bore-through lengths shall be included in all calculations implementing this paragraph. The remaining royalty upon the percent of all production from any horizontal well shall be divided among the lessors of those leaseholds upon which completions have been made in equal shares determined by dividing that remaining royalty by the number of completions made in the entire horizontal well.

– While the *Browning* case may give some comfort about the damages a lessee may face if the pooling is improper, there are some questions about *Browning*. What about the right to transport production from another tract through the tract in *Browning*?

Five Drillsites



– Pennsylvania Rule:

- Pomposini case Pomposini v. T.W. Phillips Gas and Oil Co., 397 Pa.Super. 564, 580 A.2d 776 (Pa.Super 1990).
- Typical PA lease:
 - » [On gas] at the rate of two hundred dollars per year while the well shows a pressure of 200 or more lbs., [sic] per square inch upon being shut in five minutes in two inch pipe or thirty minutes in larger pipe; at the rate of one hundred dollars per year while the well shows a pressure of 100 or more lbs. per square inch upon being shut in five minutes in two inch pipe or thirty minutes in larger pipe; at the rate of fifty dollars per year while the well shows a pressure of less than 100 lbs. per square inch upon being shut in five minutes in two inch pipe or thirty minutes in larger pipe; to be paid quarterly from completion until abandonment of well.

Pomposini

- Lessee started using reservoir for gas storage.
 - The court, recognizing that both native and extraneous gas were in the reservoir, held that the royalties were to be determined by the pressures exerted by the native gas; however, because of the commingling, the gas injected into the well could not be separated with certainty from the amount of natural gas produced and stored. Under these circumstances, the lessor was entitled to royalties based on the pressure exerted by the gas without regard to whether the gas therein was native or injected from a foreign source.

- Effective Date of Pooling
 - Tittizer v. Union Gas Corp. Texas Supreme Court 2005.
 - » Tittizer v. Union Gas Corp., 171 S.W.3d 857 (Tex. 2005).
 - Union took leases from Gisler and Tittizer.
 - » Not a horizontal well
 - » Leases could be pooled only by filing a unit declaration.
 - » Production began 3/27
 - » Unit designation filed 8/7
 - » Gisler's tract is the surface drillsite; Tittizer nondrillsite.
 - » Gisler says all production from 3/27 to 8/7 is mine.
 - » Tittizer says I share from 3/27 because Union's unit declaration says it is effective from date of first production.

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- Tittizer v. Union Gas Corp.
 - Trial Court:
 - Both get production from 3/27
 - Court of Appeals:
 - Only Gisler gets production from 3/27
 - Texas Supreme Court:
 - Under the terms of Tittizer's lease, pooling could only be effectuated upon recordation of an instrument identifying the pooled unit.
 - The attempt by Union Gas to effect pooling on a date prior to the date of recordation was contrary to the terms of the lease.
 - Affirmed the court of appeals' conclusion that Tittizer was only entitled to her pro rata share of the royalties earned after the date of recordation.
 - Issue: How does pooling work when the well is producing as it is being drilled but only unitized after completion?
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