
RISING TIDE:
GROWING TRENDS IN
SUB-SURFACE RIGHTS AND TRESPASS ARISING FROM
FRACING AND HORIZONTAL DRILLING

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Introduction: The Modern Oil and Gas Patch is dominated by a host of sophisticated *and interrelated* technologies

- Drilling and completion technology:
 - ✓ Long-legged horizontal well
 - ✓ Fraced in multiple phases
 - ✓ Using tremendous amount of water – re-using as much as possible
 - ✓ Drilled on multiple well pads
- Seismic technology:
 - ✓ 3D seismic imaging and amplitude analysis
 - ✓ Microseismic
- Unconventional sources
 - ✓ Tight shales with oil or gas
 - ✓ Coal bed methane, using dewatering, fracing and horizontal wells
 - ✓ Oil shales, using in situ heating and freeze wall
 - ✓ Oil sands, also using in situ heating

Introduction: where we need to start on Sub-surface Trespass:

Because the modern oil and gas patch is dominated by host of sophisticated and interrelated operations :

- It's just not just one thing and it's not just sub-surface
- Trespass is simply the flipside of the boundaries of oil and gas rights
- Any discussion of oil and gas rights boundaries and trespass needs to include:
 - ✓ The intersection of these multiple, ever-accelerating technologies
 - ✓ If and how our legal concepts can be applied to this intersection for liabilities
 - ✓ Are new *duties* are being created as an inadvertent by-product?
 - ✓ Do or will these duties impact reserve evaluation?

Let's start drilling down: Potential Types of Subsurface Trespass from oil and gas operations

- Off-lease bottoming as a result of slant wells, the primitive variant of directional drilling
- Migration of oil and gas due to waterflooding and enhanced recovery
- Exploratory trespass
- Hydraulic fracturing where the fractures cross lease lines:
 - ✓ Producing oil and gas from the neighboring property
 - ✓ “Well hits” on neighboring wells
- Directional and Horizontal wells: Off-lease location of wellbore
- Directional wells: Off-lease perforating
- Acquisition and transportation of Water for fracing
- Disposal of Water from fracing and prolific, multiple-well pads

Let's drill down even deeper: Subsurface Trespass associated with Fracing: Before *Coastal Oil and Gas v. Garza*

- Dearth of case law:
 - ✓ Clear that outright bottoming of well on other property is trespass
 - ✓ But what about forces or fluids crossing into the neighboring property?
- Only a few early 60's cases
- The primary one on waterflooding: *RRComm v. Manziel* (Tex 1962)
 - ✓ Refused to enjoin a RRComm-permitted waterflood at TRO stage
 - ✓ “Invasion of secondary recovery substances when authorized by the RRComm held to be a regulatory issue, not a common law trespass.”
 - ✓ Largely recognized to hold waterflooding free from trespass, but easy to misunderstand scope
- *Manziel* moderated and rejected by some later courts in other states:
 - ✓ *Tidewater Oil Co. v. Jackson* (Kansas) and *Hartman v. Texaco* (New Mexico)

Still drilling down deeper: Subsurface Trespass associated with Fracing: *Coastal Oil and Gas v. Garza*

- Which brings us to the modern day question of what to do with fracing that crosses over lease lines
- Enter the case of *Coastal Oil and Gas v. Garza* on one of the potential types of damages: producing oil and gas from fractures that extend into the neighboring property
- Brought by the Garza's, royalty owners, claiming that their own lessee had fracs on the next-door (where it was also the operator) and these fracs:
 - ✓ extended over into their property
 - ✓ produced oil from their property
 - ✓ constituted actionable trespass

Still drilling down deeper: Subsurface Trespass associated with Fracing: *Coastal Oil and Gas v. Garza*

- Texas Supreme court issued landmark holding in *Garza* in 2008 that expressly held that
 - ✓ The *Rule of Capture* applied to oil produced from a well in a legal location even if the fractures extended into the neighboring property
 - ✓ *Meaning* that it was legal to take and produce the oil
 - ✓ Thus, leaving these particular plaintiffs out in the cold with no damages
 - ✓ Avoided the main question of whether fracs into a neighbor's property is trespass

**Still drilling down deeper:
Subsurface Trespass associated with Fracing:
*Using Coastal Oil and Gas v. Garza***

- There was a strong dissent in *Garza* by Justice Johnson:
 - ✓ The *Rule of Capture* can't apply to production from fractures into a neighbor's property because it requires drainage by "natural" means to a legally located wellbore, which does not include physically entering into an adjoining property by creating fractures
 - ✓ Equated fracing to deviated drilling that illegally bottomed onto neighboring property
 - ✓ Therefore, fracing is as much a trespass as deviated drilling when physically entering onto a neighbor's property without permission

Drilling down even further: *But that's not all...on Subsurface Trespass associated with Fracing: Coastal Oil and Gas v. Garza*

- The Texas Supreme Court has now spoken further on its *Garza* opinion: *FLP v. Environmental Processes*...sort of
 - ✓ *FPL* dealt with a TCEQ-permitted well for commercial disposal by deep injection that would physically invade the formation underlying the neighbors property
 - ✓ At one point in a yo-yo of appeals, the Supreme Court issued a decision that its *Garza* decision did not go so far as to say a permitted injection well had a blank check so as to never be liable for trespass or any other form of damages

Drilling down to conclusions...the best we can Subsurface Trespass associated with Fracing: *Coastal Oil and Gas v. Garza plus FPL*

- Put all together, the Supreme Court seems to be saying:
 - ✓ Under the *Rule of Capture*, you can lawfully produce oil from fractures that extend onto a neighbor's property as long as the well bore is at a lawful location
 - ✓ But you can still be liable for other kinds of damages for trespass caused by entering a neighbor's property by injection or fracing
- Just as importantly: what is the Supreme Court **not** saying?

Drilling down to conclusions...the best we can Subsurface Trespass associated with Fracing: *Coastal Oil and Gas v. Garza* plus FPL

- In the end, the Supreme Court has left lots of uncertainty as to nitty gritty questions in applying *Garza* to actual situations in Texas itself:
 - ✓ Will the Rule of Capture stop *actual* damages for a different kind of plaintiff than the *Garza* Royalty Owners, like a neighboring lessee or operator?
 - ✓ Will a neighboring lessee/operator be able to claim nominal damages trespass as is ordinarily the case?
 - ✓ If so, how about injunctive relief – meaning prohibit the drilling, comp or operation of the well?
 - ✓ What about damages not from a negative action like exiting the neighbor's property by producing the oil – but from entering with a invasive force and fluids, like well-hits?

Drilling down to conclusions...the best we can Subsurface Trespass associated with Fracing: *Coastal Oil and Gas v. Garza plus FPL*

- But even bigger, more amorphous issues remain:
- What about other states?
- What about the impact on affirmative obligations of the lessee or operator?
- What about reserve evaluation?

Drilling down as to *Other States*: Subsurface Trespass associated with Fracing:

- *Garza* expressly rejected by Federal District Court in West Virginia in *Stone v. Chesapeake*:
 - ✓ Adopted Johnson's dissent and rejected the use of the Rule of Capture
 - ✓ The *Stone* court was explicit about the potential harms from *Garza*:

“The *Garza* opinion gives oil and gas operators a blank check to steal from the small land owner.”
- Also, remember *Hartman v. Texaco* (New Mexico) and *Tidewater v. Jackson* (Kansas)

Drilling down to the Broader Message from *Garza*: Affirmative Obligations under Lease Covenants

- A completely overlooked aspect of *Garza* is whether it creates ***affirmative obligations*** on lessees and operators
- Chief among these is the implied covenant of reasonable development:
 - ✓ *If you can do it, you must do it.*
 - ✓ “Can” means *lawful and at a reasonable profit*
 - ✓ *If it’s lawful and you can do it at a profit, you must do it.*

Drilling down to the Broader Message from *Garza*: Affirmative Obligations under Implied Covenants

- Think about the ramifications of putting together:
 - ✓ the *Garza*'s application of the *Rule of Capture* as to oil from fracs onto neighboring properties with
 - ✓ the Implied Covenant that if you can do it legally, you must do it
- While I doubt it ever crossed the Supreme Court's mind, there is simply nothing that prevents the creation of an obligation to frac into your neighbor's property
- Where do you as Evaluation Engineers stop your determination of reserves?
 - ✓ Are you to include all oil that could be captured through fracs, including the reserves on neighboring properties?

IN THE END: Coming back Up Hole to the Broader Message of the Modern Oil and Gas Patch

- Auxiliary slides show more tech in the modern oil and gas patch:
 - ✓ Fracing and long-legged horizontal wells from multi-well pads
 - ✓ Massive demands for water and new treatment/transpo potentials
- All add up to a new world as to the boundaries of oil and gas rights and the possibility of subsurface and surface trespass
- A new world that is only begun to be illuminated by cases like *Garza* for Texas and other states
- Leaving you to grapple with the ultimate question:
 - ✓ *Where do you as Evaluation Engineers fit into this evolving law covering the new world of the oil patch?*

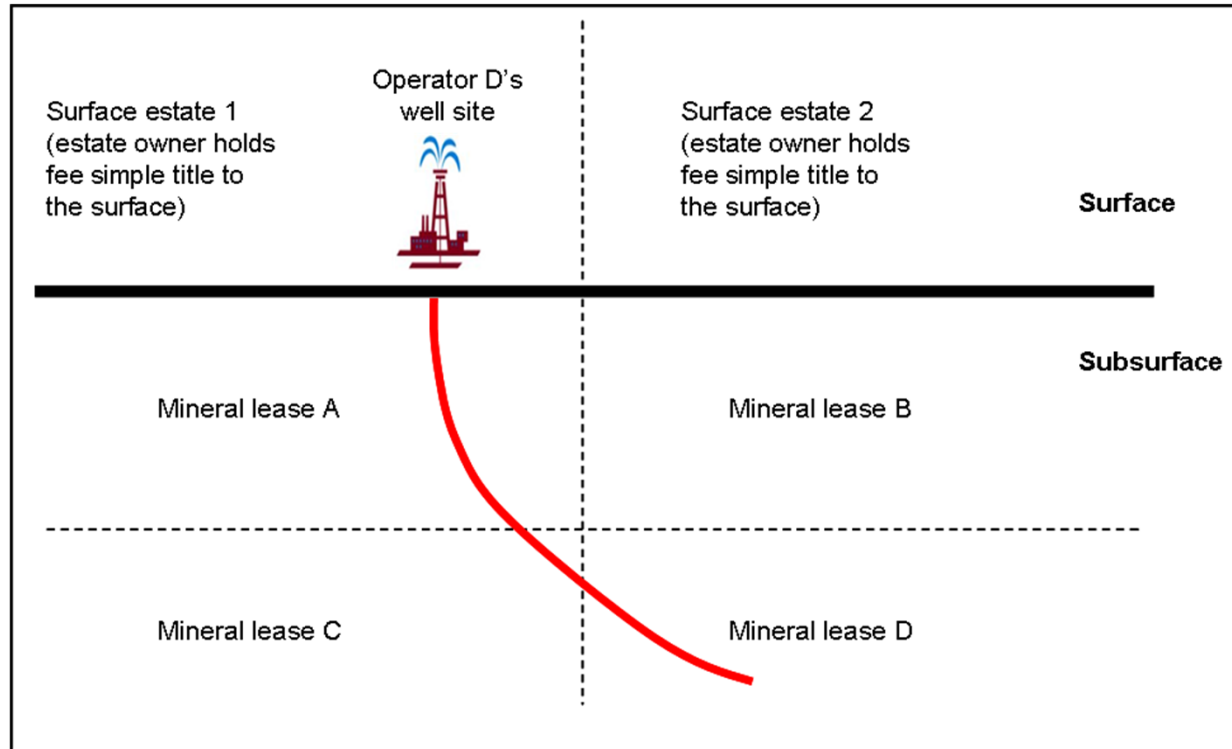
Thank You

AUXILIARY SLIDES

SUBSURFACE TRESPASS: *Unitization and Pooling*

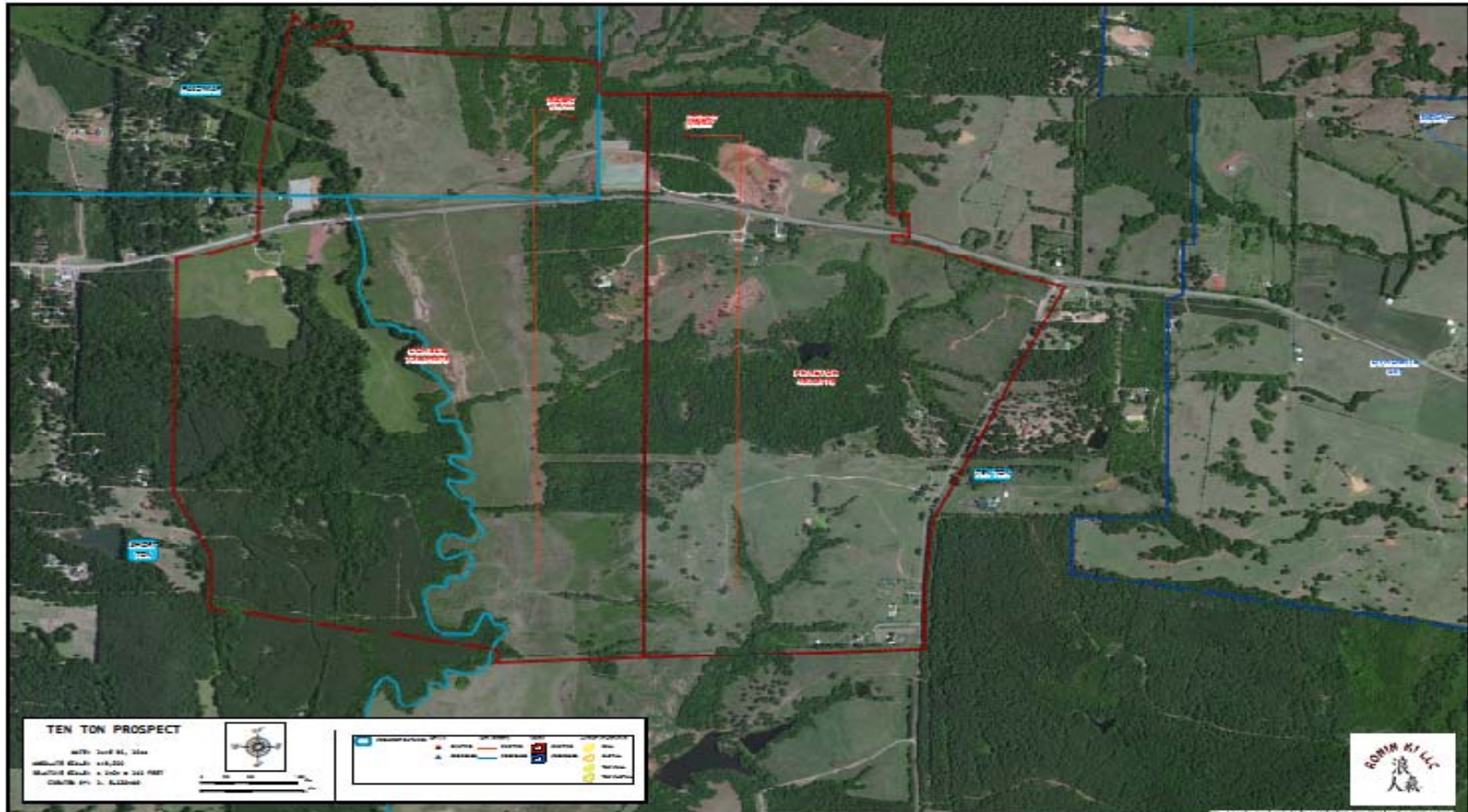
- Unitization and Pooling remain important tools in avoiding subsurface trespass
- The alternative to voluntary pooling will be to rely on the Forced Pooling/Unitization statutes.
 - ✓ Application of forced pooling/unitization likewise requires adequate provision for the spacing unit needed for each well.
 - ✓ These statutes often include favorable provisions for non-joining interests, such as in North Dakota and Montana.
 - ✓ North Dakota provides a basic royalty to the forced pooled with a cost-bearing WI for the remainder of the interest.
 - ✓ California's unique position on units presents special challenges.

SUBSURFACE TRESPASS: *Crossing and Entering Other Properties*



SUBSURFACE TRESPASS: *Crossing and Entering Other Properties*

Here's how it looks in the graduate school of real life, Part 1



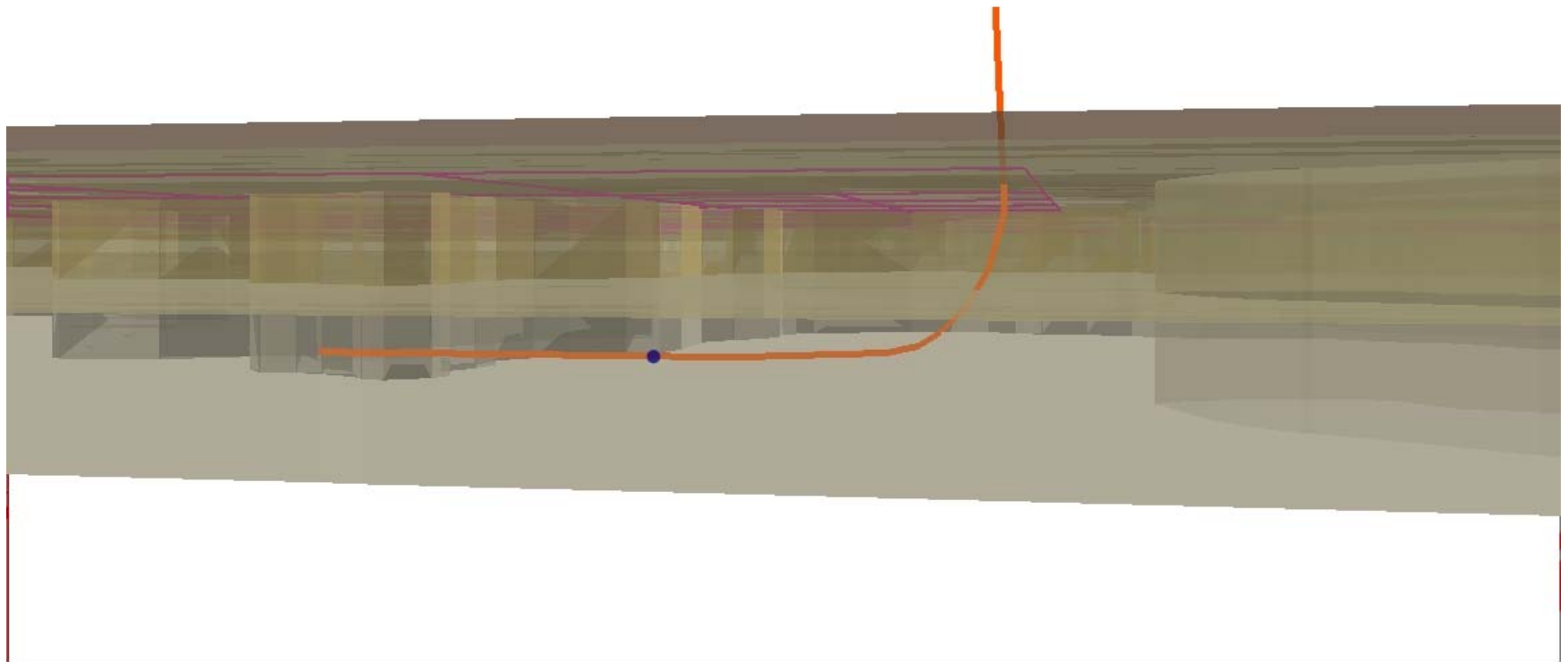
SUBSURFACE TRESPASS: *Crossing and Entering Other Properties*

Here's how it looks in the graduate school of real life, Part 2



SUBSURFACE TRESPASS: *Crossing and Entering Other Properties*

Here's how it looks in the graduate school of real life, Part 3



SUBSURFACE TRESPASS: *Crossing and Entering Other Properties*

- *Springer Ranch, Ltd v. Jones*, 421 S.W.3d 273, (Tex. App. – San Antonio 2013) held in the context of underground storage that:
 - ✓ “Surface estate can be fairly equated with the physical or corporeal structures of the earth over which the surface estate owner has dominion, or owns” (citing *Averyt v. Grande, Inc.*, 717 S.W.2d 891, 894 (Tex. 1986))
 - ✓ The mineral owner does not have ownership of the earth surrounding those substances
- “[...]the surface of the leased lands and everything in such lands, except the oil and gas deposits covered by the leases, were still the property of the respective landowners....This included the geological structures beneath the surface, including any such structure that might be suitable for the underground storage of 'foreign' or 'extraneous' gas produced elsewhere.” (citing *Emeny v. United States*, 412 F.2d 1319, 1323 (Ct. Cl. 1969))

- ✓ Notably, the *Springer Ranch* Court did not address or eliminate the

DAMAGES

- *Browning v. Luecke*, 38 S.W.3d 625, (Tex. App.— Austin 2000): in the context of a horizontal well through several properties without an effective pooling clause, the appellate court recognized the rule that a lessor can only collect royalties due on the oil and gas produced from the lessor's lands, not the other lands
- *Springer Ranch, Ltd v. Jones*, 421 S.W.3d 273, (Tex. App. – San Antonio 2013): in the context of allocating royalties from a long-lateral horizontal well with multiple perf zones underlying several properties, the royalties must be allocated on the comparative basis of where the productive portions were situated in the properties.
- In other states, need to check evolving statutory initiatives.

WATER USE associated with Fracing:

- Looking to two states of Colorado and Kansas give a useful view of the differing issues when obtaining water rights for oil and gas operations including fracing:
 - ✓ Threshold issue: determine the nature of water ownership and ability to use water
 - ✓ Fundamental difference between riparian rights states, such as Texas, in water apportionment/appropriation states like Colorado

WATER USE associated with Fracing:

- In water appropriation states like Colorado, the location of source of fresh water is not relevant
- All fresh water that is surface or contiguous is presumed to be state waters subject to appropriation to senior rights owner
- Fresh water used for water-intensive fracing operations ubiquitously used on horizontal wells, must be acquired, usually by purchase, from a senior water rights owner
- The lessor cannot allow use of fresh water unless he owns an appropriation that has been adjudicated for the purpose
- However, several key producing states have special allowances for using produced water for subsequent operations

WATER USE associated with Fracing:

- In *Colorado*:
 - ✓ 2011 amendments to Colorado Water Statute for Underground Water, allow production of water and free use of produced water that was originally in place as long as in the same basin
 - ✓ Three direct ramifications emerge:
 - Water *from* operations will not need an appropriation
 - Water *for* operations that come from water produced from oil and gas operations does not need an appropriation
 - Water *for* operations that comes from any source other than produced water from oil and gas operations will need a decreed and adjudicated appropriation or an outright purchase from a supplier

WATER USE associated with Fracing:

- In Kansas,
 - ✓ Broad authority to both an operator to dispose of its own saltwater and a disposal operator to dispose of other's produced water under permits from the Corporation Commission without dealing with the Water Appropriation Statute
 - ✓ Three direct ramifications emerge:
- Water *for* fracing or operations that come from water produced from oil and gas operations does not need an appropriation
- Water *for* such operations that comes from any source other than produced water from oil and gas operations will need an appropriation, upon a successful application for a beneficial use
- Water *from* such operations that was not original-in-place will need an appropriation, including produced saltwater from another source

THE FUTURE:

Subsurface Trespass associated with Fracing et al

- We must expect the continued exponential growth of modern technologies
- Ultra-long length lateral horizontal wells
- Re-fracing of existing wells
- Increased need for water resources
- Refined detection techniques
 - ✓ Microseismic
 - ✓ Real time, in-process, down-hole pressure measurement
 - ✓ Field wide operational monitoring
 - ✓ Seismic processing
 - ✓ Finally able to put little people down-hole to really tell us what's going on: a joke or coming robotics