

Geothermal Development Rights in Texas

Considerations for the Oil & Gas Operator

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Geothermal Development Rights: Texas is Unique

- In 1844, the Republic of Texas offered to cede all its public lands if the federal government would assume \$10 million in public debt.



— The federal government refused!

- In 1845, the Republic became the 28th state (keeping both its vast public lands and its \$10 million in debt).



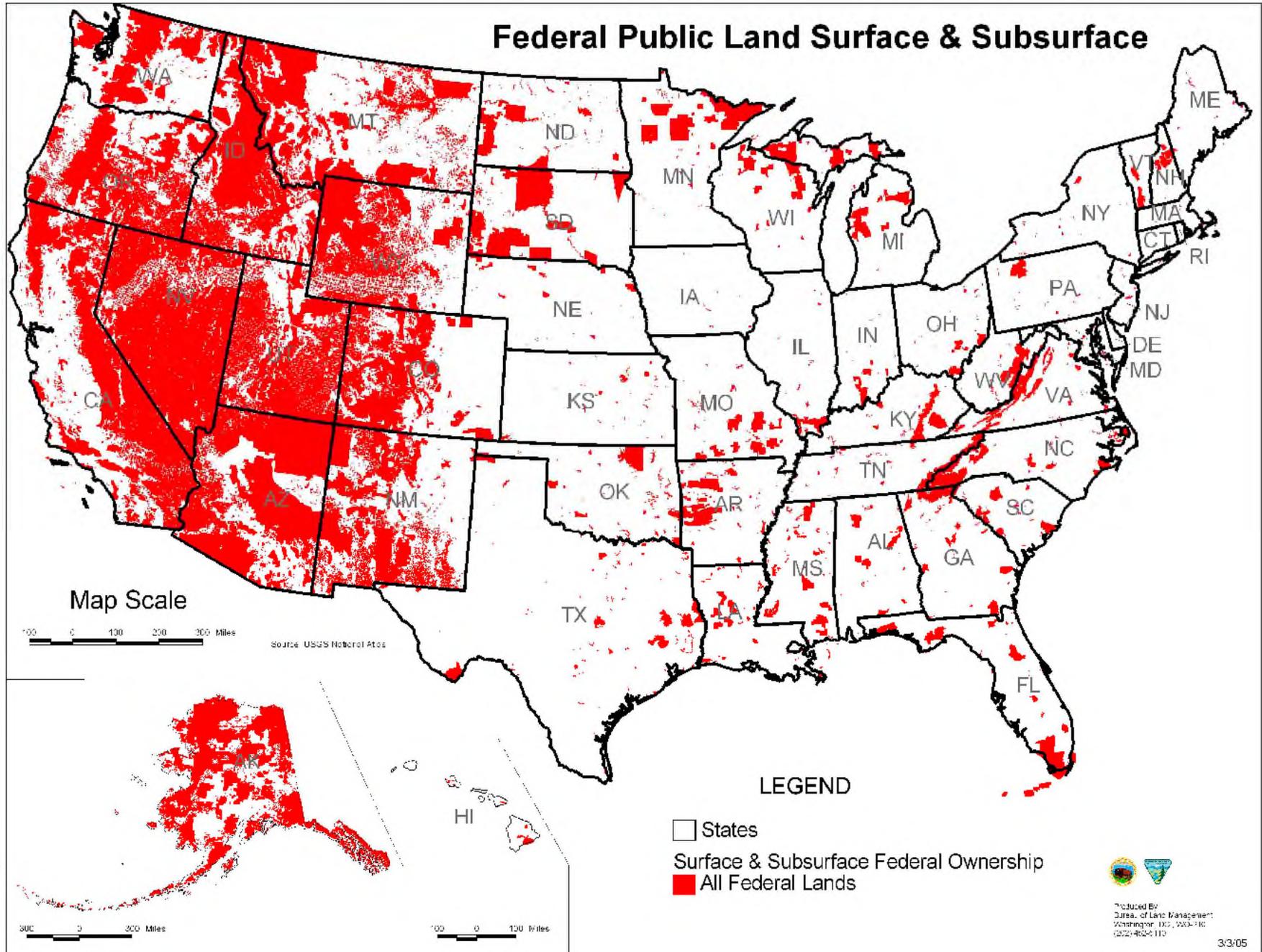
Geothermal Development Rights: Texas is Unique

- As a result, only **1.43%** of Texas is owned by the federal government...

Compare to:

- California (**42.36%** federally owned--#1 in geothermal production)
- Nevada (**80.89%** federally owned--#2 in geothermal production)
- Utah (**63.12%** federally owned--#3 in geothermal production).

Federal Public Land Surface & Subsurface



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What does this mean?

Unlike other states, future development of geothermal resources will be largely on private or state owned lands and governed by Texas law.

Geothermal Development Rights: Who has the rights ?

- How should geothermal resources be classified? As **surface**, **water** or **minerals** rights? Or as something else entirely **unique**?



- This abstract legal question has an outsized practical impact today.
- The answer determines who has the “**right to produce**” geothermal resources underlying a property.
- For a developer, the answer determines who the developer needs to secure a lease with and to whom the developer pays royalties.

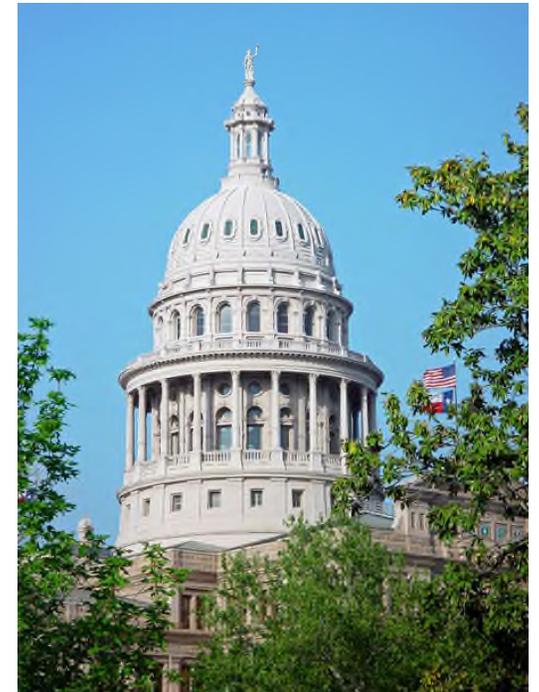
Geothermal Development Rights: How to classify?

- Classification varies by state:
 - Oregon and Washington (**surface**)
 - Alaska and Utah (**water resource**)
 - Wyoming (**public water resource**)
 - California, Hawaii and Nebraska (**minerals**)
 - Nevada (**surface**, unless specifically **reserved** or **conveyed**)
 - Idaho, Washington and Montana (“*sui generis*” or **unique**)
 - Colorado (**water resource** on private lands, but **minerals** on state and federal lands)
- Federal lands: the federal government owns geothermal development rights wherever it holds the mineral estate, but a federal mineral lease does not convey geothermal development rights.



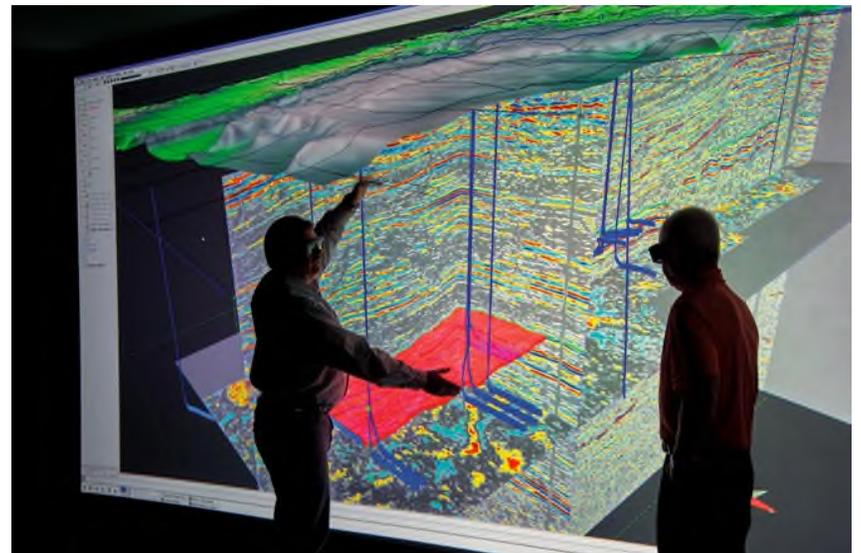
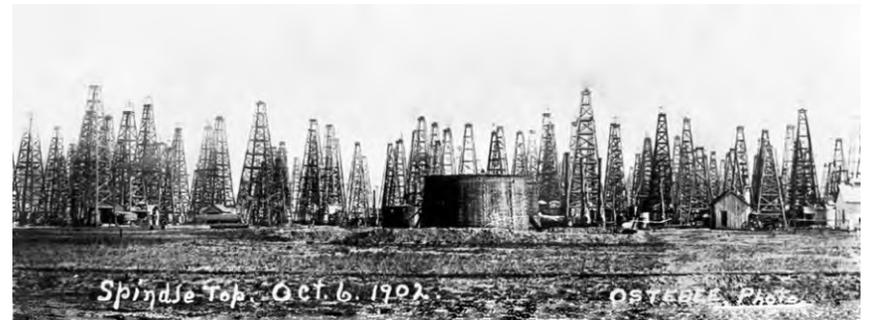
Geothermal Development Rights: How to classify?

- Texas law has **not** addressed this question.
 - No Texas court has yet ruled on how geothermal resources should be classified.
 - The Texas Legislature proclaimed that geothermal resources are “minerals” with the Texas Geothermal Resources Act of 1975:
 - (4) since geopressured geothermal resources in Texas are an energy resource system, and since an integrated development of components of the resources, including recovery of the energy of the geopressured water without waste, is required for best conservation of these natural resources of the state, all of the resource system components, as defined in this chapter, **shall be treated and produced as mineral resources**; and
 - But that Act expressly refused to address the fundamental question--ownership:
 - (5) in making the declaration of policy in Subdivision (4) of this section, there is **no intent to make any change in the substantive law** of this state, and the purpose is to restate the law in clearer terms to make it more accessible and understandable.



Geothermal Development Rights: Who owns geothermal resources under Texas land?

- This unresolved question becomes a major issue when the “mineral estate” has been **severed** from the “surface estate.”
- Severance is particularly common in Texas due to the long history of oil and gas production.
- Many leases and assignments or reservations include the language “oil, gas **and other minerals**” but are silent with respect to whether “geothermal resources” are included within the meaning of “other minerals.”
 - Only recently has it become common to see “geothermal resources” expressly included.
- Opens the door to controversy between surface and mineral estate owners.



Geothermal Development Rights: Who owns geothermal resources under Texas land?

- Lots of unanswered questions for both geothermal developers and oil and gas E&P companies. For example:
 - Is a geothermal developer liable if it produces (or does not produce) oil and gas w/o a mineral lease?
 - Is a geothermal developer liable if it produces (or does not produce) oil and gas w/o a surface or specific geothermal lease?
 - Who is paid royalties?
- What is the best way to move forward?
 - Is agency action the best solution in Texas?
 - Is legislative action the best solution in Texas?
 - Test case?
- **Lack of legal certainty creates business and investment risk.**

How would the operator of a
marginal, but still
producing oil & gas field view
a proposal from a geothermal
developer?

Geothermal Project as an separate operation / business? Or as a contractor to the O&G Operator?

- If geothermal developer is simply a contractor supplying goods or services to the O&G operator, then O&G operator will bear most of these risks and have to determine what needs to be done.
- If a geothermal developer seeks to operate a separate business in the oilfield, then each of the parties must evaluate various risks and allocate those risks between themselves.
- The following analysis assumes that the geothermal developer seeks to operate a separate business in the oilfield.

Issues to be considered and addressed:

First, obtaining the property rights.

Second, allocating responsibility for legacy operations and assets.

Third, establishing rights and responsibilities for concurrent, parallel operations.

Finally, issues arising at the exit stage.

Considerations for the operator of a **marginal** oil & gas field evaluating proposed geothermal operations.

- Initial determination that on-site power generation and use (or some other beneficial use) would lower LOE and extend the life of the field, or otherwise be useful to the operator.
- Confirm the existence of existing wellbores and/or new locations that could be utilized for geothermal.
- Confirm that the existing oil & gas leases are still “alive” and are “held by production”.
 - Both a factual and legal question
 - O&G operator is likely hesitant to give assurances on this
 - May need to obtain ratifications from lessors

Considerations for the operator of a **marginal** oil & gas field evaluating proposed geothermal operations.

- Determine whether ownership of the mineral estate is separated (or “severed”) from the surface estate.
 - Obtain ratifications and amendments to the oil & gas leases from the owners of the **mineral** estate that specifically authorize geothermal operations.
 - If surface ownership is separate from mineral ownership, obtain geothermal leases from the owners of the **surface** estate and obtain some agreement from the parties as to how revenues might be allocated or shared.
- If there are other working interest owners, and a joint operating agreement, does it require an amendment as well?

Considerations for the operator of a **marginal** oil & gas field evaluating proposed geothermal operations.

- If an oil & gas lease on a tract has terminated, analyze the lease to determine who - operator vs mineral lessor - owns the remaining equipment (*e.g.* – well casing).
- Determine what legacy environmental contamination from oilfield operations might be present and determine how to quantify and allocate those liabilities.
- Consider ways to protect the geothermal developer from becoming liable for those legacy oilfield liabilities and vice versa.
 - Contractual provisions
 - Informal or other assurances from agencies / landowners?

Considerations for the operator of a **marginal** oil & gas field evaluating proposed geothermal operations.

- Issues involving parallel / contemporaneous operations –
 - Mutual covenants not to unreasonably interfere
 - Cross indemnities as to costs and liabilities
 - Procedure for resolving development conflicts
 - Permits and governmental approvals
- Issues involving changing operations over time –
 - Exit path for O&G operator when time to abandon field
 - Regulatory obligation to P&A existing production wells
 - Lease / contractual obligation to clean-up site

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