

# **GEOHERMAL PROPERTY RIGHTS: Maximizing Successful Site Control**

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# Who Owns the Geothermal Resources?

Federal Geothermal Steam Act of 1970:

**Geothermal resources include** (i) all products of geothermal processes, embracing indigenous steam, hot water and hot brines; (ii) steam and other gases, hot water and hot brines resulting from water, gas or fluids artificially introduced; (iii) heat or other associated energy; and (iv) any by-product derived from them

- Surface, mineral or water rights?
- The federal government claims geothermal ownership wherever it holds the mineral estate.

# Who Owns the Geothermal Resources? (cont'd)

- Classification of geothermal resources varies by state
  - Mineral: California, Hawaii, Nebraska, Texas
  - Water: Alaska, Utah (>120° C); Wyoming (geothermal resources are public resource)
  - Surface: Nevada, Oregon (can be severed)
  - Sui Generis: Idaho, Washington, Montana

# Texas Geothermal Policy

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## Geothermal Resources Act of 1975, Section 141.002:

"It is declared to be the policy of the State of Texas that

- (1) the rapid and orderly development of geothermal energy and associated resources located within the State of Texas is in the interest of the people of the State of Texas."

# Texas Geothermal Policy (cont'd)

(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

(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."

# Texas Geothermal Policy (cont'd)

- The Act:
  - defines the scope of geothermal resources
  - grants regulatory authority to the Railroad Commission (in consultation with the GLO and TCEQ); and
  - gives the GLO the right to lease state land for geothermal production

# What are "Geothermal Resources" in Texas?

- "Geothermal energy and associated resources" defined broadly:
  - products of geothermal processes, embracing indigenous steam, hot water and hot brines, and geopressured water;
  - steam and other gasses, hot water and hot brines resulting from water, gas, or other fluids artificially introduced into geothermal formations;
  - heat or other associated energy found in geothermal formations; and
  - any by-product derived from them.

# What are "Geothermal Resources" in Texas? (cont'd)

- "Byproducts" are defined as "any other element found in a geothermal formation which is brought to the surface, whether or not it is used in geothermal heat or pressure inducing energy generation."



# What are "Geothermal Resources" in Texas? (cont'd)

- Compare the federal definition:

"byproduct" means any mineral or minerals (exclusive of oil, hydrocarbon gas, and helium) which are found in solution or in association with geothermal steam and which have a value of less than 75 per centum of the value of the geothermal steam or are not, because of quantity, quality, or technical difficulties in extraction and production, of sufficient value to warrant extraction and production by themselves.

# Are Geothermal Resources "Minerals"?

- Reservations of or grants or rights to "minerals"
- Are "mineral reservations" reservations of geothermal resources?
- Are leases of "oil, gas and other minerals" leases of geothermal resources?

# Are Geothermal Resources "Minerals"?

## (cont'd)

- “Surface destruction test” used prior to June 8, 1983: if any reasonable method of extraction requires destruction of the surface, then the substance is part of the surface estate. Geothermal likely a mineral.
- “Ordinary and natural meaning” test adopted after June 8, 1983: courts look to the ordinary and natural meaning of the term “other minerals.”
  - Does existence of the Act influence the outcome under this test?

# Usage Rights

- What rights does the owner of geothermal resources have?
  - Right to explore and produce
  - Dominant estate (as compared to surface), subject to
    - reasonable use restriction
    - accommodation of existing surface uses

# Usage Rights (cont'd)

- Are geothermal uses different?
  - Wells and pipelines (above ground)
  - Plants



# Scope of the Geothermal Resource

- Act defines in broad terms
  - heat, steam, hot water, brines
  - gas/hot water/brine resulting from injection
  - by-products
- Conflict with water rights?
  - does temperature matter?
- Conflict with oil and gas rights?
  - Whose rights prevail in case of conflict?

# Rule of Capture

- Rule since Romans; first applied to animals; fugitive resources belong to those who first control them
- Is the Rule of Capture applicable to geothermal resources?
  - typical project occupies small area, may draw from very large one (no reservoir limits)
  - Is hot water "fugitive"? are hot rocks?

# Rule of Capture (cont'd)

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- Coastal Oil & Gas Corp. v. Garza Energy Trust, 268 S.W.3d 1 (Tex. 2008)
  - Texas Supreme Court rejected a claim that subsurface fracking which created fissures extending into adjoining property constituted trespass



# Title Assurance

- Oil and Gas Diligence Approach
  - Large areas of land involved
  - Mineral character may preclude title insurance
  - General landman diligence on tracts with the resources
  - More formal processes for drillsites, other key areas once ready to drill

# Title Assurance (cont'd)

- Title Insurance
  - Title policies may be issued to cover geothermal resources
  - Difficulties:
    - geothermal reservoir may cover very large area
    - title company's abstract plant may not have complete mineral history
    - adverse possession concepts may not apply

# Lease Considerations

- No standard forms or standardized approach
- Oil and gas lease approach
- GLO and U.S. lease forms
- Wind project approach--lease with easements
- Include all the necessary rights
- Rights to reservoir, surface rights for power plant, wells, pipelines, roads, and ancillary facilities

# Lease Considerations (cont'd)

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- Be sure "Grantor" owns all necessary rights
- May require negotiation with multiple parties: surface owner, mineral owner, water rights owner

# Suggestions for Site Control with Minimum Risk of Future Surprises

- Assume the resource is a mineral
- Diligence the chain of title to the mineral rights for grants/reservations of "minerals"
  - severances from fee
  - existing oil and gas leases
- Diligence not only the resource but also the surface uses and oil and gas resources and possible adverse effects on them
- Determine any need for external water source

# Suggestions for Site Control with Minimum Risk of Future Surprises (cont'd)

- Obtain quitclaims, waivers, agreements or leases from owners of other kinds of interests (surface, mineral, water) who could make claims
  - to the geothermal resource itself based on untested law
  - for adverse effects of development
- Don't wait for your success to become someone else's opportunity to take it from you

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Thank you!



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