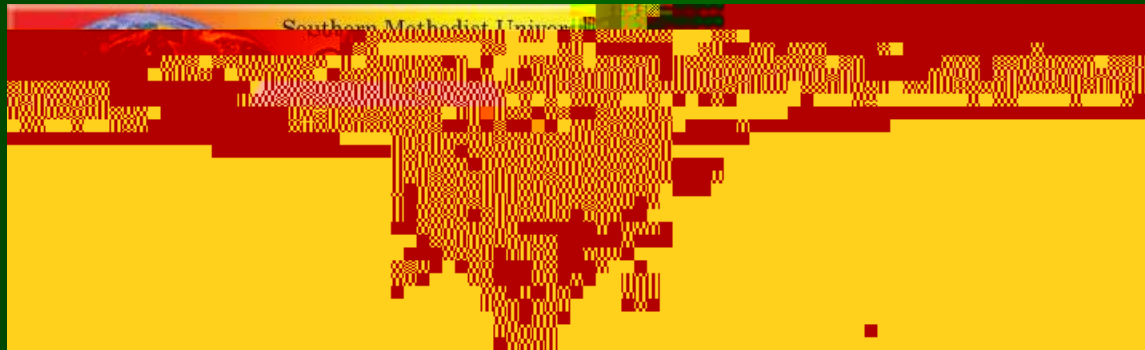


# Geothermal Leases and the Regulatory Environment



November 3 - 4, 2009

**H. Martin Gibson**

2001 Ross Avenue, Suite 3000  
Dallas, Texas 75201

Dallas " Denver " New York " Newark " Washington, D.C. " Northern Virginia " Anchorage " Doha, Qatar

# Texas Geothermal Policy

- Texas Geothermal Resources Act of 1975
  - RRC has
    - Duty to regulate the exploration, development, and production of geothermal energy and associated resources on both public and private land.
    - Geothermal Energy and Associated Resources Defined
      - all products of geothermal processes, embracing indigenous steam, hot water and hot brines, and geopressured water
      - steam and other gases, 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
      - any by-product derived from them.

# Texas Geothermal Implementation

- RRC
  - Same rules on development of geothermal resources as imposed on the development of oil and gas
    - Permitting to drill, deepen, plug back or reenter a well
    - Spacing rules, well density rules
    - Limitations on waste disposal and the like.
  - Practical
    - Most proposals for development of geothermal energy contemplate using existing oil and gas wells to reach the geothermal resources.

# Texas Geothermal To Do

- General Land Office and School Land Board
  - Power to lease state lands for geothermal energy development.
- Geo-Trio
  - RRC, Texas Natural Resource Conservation Commission and GLO to make rules providing for the *rapid and orderly* exploration, development, and production of geothermal energy and associated
  - Must work together to coordinate the development of the geothermal resources of Texas.

# Texas Geothermal More Specific

- Texas Public Utility Commission
  - Targets levels of renewable energy capacity, with a long-term goal of 10,000 MW of installed renewable capacity by January 1, 2025.
- Texas Tax Code
  - Amended September 1, 2009
  - Exempt oil and gas which is incidentally produced in association with the production of geothermal energy from the severance taxes on those substances.
    - What is “incidental production”?

# Texas Geothermal Portent

- Anthropogenic Global Warming
  - House of cards will collapse
    - No warming since 1998
    - Cooling for last 3 years
    - Antarctic Ice reached record levels in 2007
    - Arctic Ice rapidly increasing
    - Cool PDO
    - Fading warm AMO
    - Polar Bears NOT at risk
    - Anthropogenic connection obscure, at best
- Lessons
  - Financing, tax and regulatory benefits may be fleeting
  - Projects need to stand on their own economically

# Texas Geothermal Legal

- Who owns the right to produce geothermal resources?
  - California
    - Part of the mineral estate
  - Nevada and Oregon, by statute
    - Belongs to surface owner
  - Washington, by statute
    - Surface owner, not a mineral nor a water resource
  - Colorado, by statute
    - Hot water belongs to the state, hot rocks belong to the surface owner.

# Texas Geothermal Legal

- Who owns the right to produce geothermal resources?
  - Federal
    - Mineral lease does not convey geothermal rights.
  - Texas
    - No cases, no statute
    - A.W. Overbeck says geothermal belongs to the mineral owner
      - Policy argument only
      - Not supported by direct authority.



# Texas Geothermal Legal

- Texas
  - We believe geothermal belongs to the surface owner,

# Texas Geothermal Legal

- Heat from Produced Water
  - Mineral owner has no right to utilize the heat for sale
  - Might be able to sell as “incidental” to mineral production.
    - But surface owner gets all proceeds
      - May get to deduct costs
  - Mineral owner may be liable for waste for not capturing heat from produced water
  - Solution: implied duty to notify surface owner of availability of heat and make available. Surface owner would take responsibility for installing facilities and disposing of produced water.

# Texas Geothermal Legal

- Geothermal drilling operations
  - Risk of geothermal operations
    - Exciting developments
      - 36 inch pipe to 3,000 feet
      - Use as leverage in negotiations
    - What happens if the geothermal operator encounters oil and gas in its drilling?
    - Should be able to produce “incidental” amounts, but no financial benefit without prior agreement with mineral owner.
      - Changes in Texas Tax Code does not grant ownership
    - Some potential liability for damage to oil and gas reservoir.

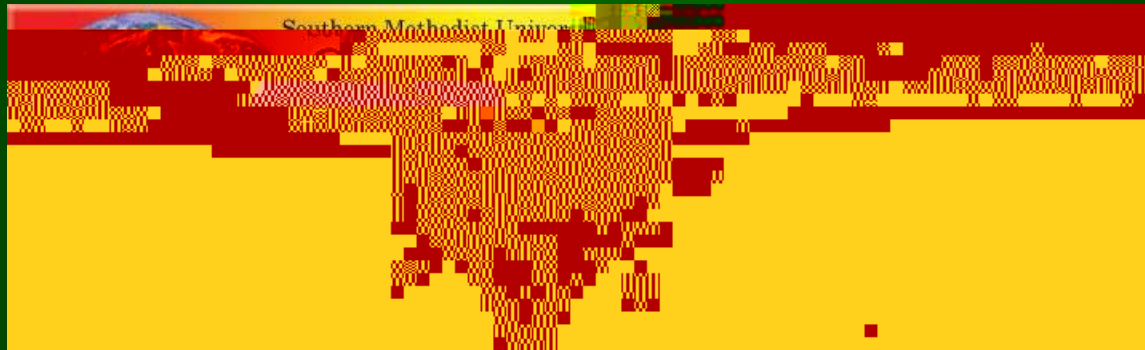
# Texas Geothermal Legal

- Suggestions
  - For the geothermal lessee
    - Seek a separate or combined oil and gas lease from unsevered owner
      - Or geothermal lease from surface owner and lease from mineral owner
        - » Option: case the producing zone
        - » Use as leverage in negotiations
      - Do your engineering. How are you going to deal with oil or gas encountered in the geothermal well?

# Texas Geothermal Legal

- For the mineral lessee
  - Try to get grant of geothermal rights in your oil and gas lease from unsevered owner.
  - Or geothermal lease from surface owner.

# Geothermal Leases and the Regulatory Environment



November 3 - 4, 2009

**H. Martin Gibson**

2001 Ross Avenue, Suite 3000  
Dallas, Texas 75201

Dallas " Denver " New York " Newark " Washington, D.C. " Northern Virginia " Anchorage " Doha, Qatar