

# Geothermal Leasing 101: Federal, State and Private Lands

**Andrew T. Braff, Esq.**

*Attorney*

*Wilson Sonsini Goodrich & Rosati, P.C.*

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 **Wilson Sonsini Goodrich & Rosati**  
PROFESSIONAL CORPORATION

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# Overview

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- 1. A Short History of Geothermal Leasing**
- 2. Characterizing Geothermal Resources**
- 3. Ownership of Geothermal Resources**
- 4. Federal Geothermal Leasing**
- 5. State Geothermal Leasing**
- 6. Geothermal Leasing on Private Lands**

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## A Short History of Geothermal Leasing

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- **1951:** Owners of property convey to Geothermal Kinetics' predecessor in interest a deed for "all minerals in, on or under 408 acres." Ultimately supplies first plant. ←
  - **1955:** Commercial development in The Geysers commences with Magma Power Company and Thermal Power Company drilling along Big Sulphur Creek.
  - **1960:** PG&E opens first electrical generating plant at the Geysers utilizing geothermal steam piped from well drilled pursuant to 1951 Grant. More plants in 1963 and 1967.
  - **1965:** California enacts first statute regulating geothermal operations (Ch. 1483, 1965 Cal. Stat. 3451, codified as amended, at Cal. Pub. Res. Code §§ 3700-3776). ↓
  - **1966:** President Johnson pocket vetoes the Geothermal Steam Act of 1966.
  - **1967:** Two states pass statutes authorizing the leasing of geothermal resources.
    - **California:** Geothermal Resources Act of 1967, ch. 1398, 1967 Cal. Stat. 3279 (codified as amended at Cal. Pub. Res. Code §§ 6901-6925.2).
    - **New Mexico:** Geothermal Resources Act, ch. 158, 1967 N.M. Laws §§ 1-29 (codified at N.. Stat. Ann. 19-13-1 to 19-13-28).
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# A Short History of Geothermal Leasing

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- **1968:** Owen Olpin publishes his paper, *The Law of Geothermal Resources*. Was often cited by courts in decisions regarding the estate and ownership of geothermal resources.
- **1968 and 1969:** Bills addressing geothermal leasing fail in Congress over disagreements regarding conversion rights and due to opposition from the Department of Interior.
- **December 24, 1970:** First Federal law enacted providing for the leasing of Federal lands for geothermal resources (Geothermal Steam Act of 1970, 30 U.S.C. § 1001 *et seq.*).
- **1972-1974:**
  - **Idaho** passes its geothermal resources statute (1972, Ch. 182; I.C. 47-1601 to 47-1611)
  - **Washington** passes Geothermal Resources Act (1974 ex.s. ch. 43; RCW 78.60.010-.900)
- **January 31, 1977:** *United States v. Union Oil Company of California* decides fate of owners occupying the surface of 35 million acres patented under SRHA.
- **July 17, 1980:** *Pariani v. State of California* rules on ownership of geothermal resources on split estate lands patented by California.

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# A Short History of Geothermal Leasing

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- **August 7, 2005:** EPLA signed by President Bush, which included the John Rishel Geothermal Steam Act Amendments.
- **April 14, 2006:** BLM Director and Chief of the US Forest Service signed MOU on 04/14/2006, which created administrative procedures for processing lease applications and to reduce the backlog of lease applications.
- **May 2, 2007:** DOI issues current regulations for Federal Geothermal Resource Leasing and Geothermal Resource Unit Agreements.
- **June 20, 2007:** First competitive lease sale under the new regulations. 8 parcels in Utah and Idaho leased with \$9.4million in total revenue.
- **Other Competitive Lease Sales Under Current Regulations:**
  - **August 14, 2007:** 49 parcels leased in California and Nevada (\$19.7 million)
  - **August 6, 2008:** 35 parcels leased in Nevada (\$28.2 million)
  - **December 19, 2008:** 48 parcels leased in Utah (\$5.7 million)
  - **July 14, 2009:** 98 parcels leased, 82 in Nevada, 15 in California, and 1 in Utah (\$9.1 million)

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# Characterizing Geothermal Resources

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## Difficulties in Characterizing Geothermal Resources:

- **No Consensus:** No general consensus exists on how exactly to characterize geothermal resources.
- **Generally:** Natural heat of the earth.
  - How, in property law, is “heat” categorized? It’s not a tangible item to be “possessed”.
  - Heat *dissipates* and is rather an **occurrence**.
- **Water?:** The medium for bringing geothermal energy to the surface where it can be “captured” and converted into energy.
  - But is this water part of the normal groundwater system? (NO-*Geothermal Kinetics*-CA)
  - Is the resource connected to surface water (e.g., “Tributary Groundwater”) that would be affected by use of the geothermal resources?
  - Large water content, whether in liquid or gaseous form, separates GR from other minerals.
- **Mineral?:**
  - Minerals are contained in geothermal fluids;
  - Other valuable energy commodities such as oil, gas, and uranium are considered minerals;
  - All are heat energy sources (once converted).
- ***Sui Generis?*** Cannot be classified as either water or mineral.

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# Characterizing Geothermal Resources

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- **California:** California Geothermal Resources Act (Pub.Res.Code § 6903)
  - Geothermal Resources are “the **natural heat of the earth**, the energy, in whatever form, below the surface of the earth present in, resulting from, or created by, or which may be extracted from, such natural heat, and **all minerals in solution or other products** obtained from naturally heated fluids, brines, associated gases, and steam, in whatever form, found below the surface of the earth, but excluding oil, hydrocarbon gas or other hydrocarbon substances.”
- **United States:** Federal Geothermal Steam Act (30 U.S.C. § 1001 et seq.)
  - Geothermal Resources are: “(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 other fluids artificially introduced into geothermal formations; (iii) **heat or other associated energy** found in geothermal formations; and (iv) any byproduct derived from them.”
- **Arizona:**
  - Geothermal Resources are defined almost identically to that contained in the Federal Geothermal Steam Act, however, it contemplates artificial stimulation or induction.

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# Characterizing Geothermal Resources

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- **Washington:** Geothermal Resources means “only that natural heat energy of the earth from which it is technologically practical to produce electricity commercially and the medium by which such heat energy is extracted from the earth, including liquids or gases, as well as any minerals contained in any natural or injected fluids, brines and associated gas, but excluding oil, hydrocarbon gas and other hydrocarbon substances. (Geothermal Resources Act, 1974 ex.s. c. 43)
- **Idaho:** Very similar to the California definition, but also provides that geothermal resources are “declared sui generis, being neither a mineral resource nor a water resource, but they are also ... declared to be closely related to and possibly affecting and affected by water and mineral resources.”
- **Utah:** Defines Geothermal Fluids as “any water and steam at temperatures greater than 120 degrees centigrade naturally present in a geothermal system. . . . Geothermal fluids are deemed to be a special kind of underground water resource, related to and potentially affecting other water resources of the state.”

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# Characterizing Geothermal Resources

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- **Temperature:** Some states define “geothermal resources” for leasing purposes as only those resources above a certain temperature. Cooler resources are just deemed “water” subject to appropriation or state water rights claim procedures.
  - **Alaska/Utah**: Only resources above 248°F = “geothermal”
  - **Idaho**: Below 212°F = *low temp geothermal resource* acquired via appropriation
- **Common Threads to All Statutory Definitions:** (1) Natural heat; (2) products of such heat contained in fluids; and (3) water, steam or vapors that act as the transfer mechanism bringing the heat to the surface.
- **The Issue of Ownership:** Some of these definitions, or statutes that follow these definitions, address the question of ownership. Many do not, leaving it to the courts of each state to decide after a dispute arises, based on each state’s own, distinct precedent, and what the judge ate for breakfast.

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# Ownership of Geothermal Resources

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## What Does This All Mean?

*As a result of the multi-faceted nature of geothermal resources with characteristics spanning various traditional real property estates, applicable law governing the ownership and use of geothermal resources varies from state-to-state and between state and federal lands within the same state.*

Different Definitions and Statutes +  
50 States' Background/Common Law +  
Many Judges Interpreting These Statutes Against This Background Law =  
**CONFUSING LEGAL MESS**

# Characterizing Geothermal Resources

<u>State</u>	<u>Authority</u>	<u>Nature of Geothermal Resources</u>
Alaska	38.05.125	State owns geothermal resources. Surface owner has priority (38.05.181).
California	<i>Pariani</i>	<b>Mineral.</b> Conveyance/reservation of “all minerals” conveys/reserves GR.
Colorado	37-90.5-104	* If associated with Tributary Groundwater, usufructuary right (right of use). * Otherwise, runs with surface if not <u>specifically</u> reserved/conveyed.
Hawaii	182-1	<b>Mineral.</b> Conveyance/reservation of “all minerals” conveys/reserves GR.
Idaho	47-1602	<i>Sui Generis.</i> State claims ownership where it has reserved “all minerals”.
Montana	77-4-104	<i>Sui Generis.</i>
Nevada	534A.050	<b>Not Characterized (But taxed as a mineral).</b> Owner of real prop. owns GR unless reserved/conveyed.
New Mexico		<b>Mineral.</b> Conveyance/reservation of “all minerals” conveys/reserves GR.
Oregon	522.035	<b>Not Characterized.</b> Runs w/surface estate unless geothermal resources are specifically reserved/conveyed and is handled under mineral statutes.
Utah	73-22-8	<b>Water.</b> <u>BUT</u> ownership derives from interest in land, not appropriative right.
Washington	78.60.040	<i>Sui Generis.</i> Runs with surface if not specifically reserved.
Wyoming	41-3-901	<b>Water.</b> Acquired by application. The use of water for extracting heat is considered a beneficial use subject to prior rights (Title 41 Ch. 3).

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# Ownership of Geothermal Resources

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## ...AND Why is this Important?

- **Title:** It is essential to understand how a state defines geothermal resources and in which “legal bucket” it fits.
  - Affects how a court may interpret who holds title.
  - Want to make sure you are getting what you think you are getting.
  - “Geothermal Lease”? “Mineral Claim”? “Water Right”?
  - Affects who you talk to as the “True Lessor” (U.S./BLM, a State, Private)
  - Affects whether your rights are complete or not
  - **AFFECTS PROJECT FINANCING!!!**
- **Regulatory Process:**
  - Affects what permitting regime applies (Federal or State)
  - Depending on how the resource is categorized usually provides a hint as to the “lead agency” controlling various aspects of the permitting process.
    - California: Dept. of Conservation’s Division of Oil, Gas and Geothermal Resources (MINERALS).
    - Utah: Department of Natural Resources’ Division of Water Rights has authority over all geothermal resources (WATER).

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# Ownership of Geothermal Resources

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## **“CASE” IN POINT**

### ***Geothermal Kinetics, Inc. v. Union Oil Company, 75 Cal.App.3d 56 (1977)***

- **Deed:** A 1951 deed conveyed to Geothermal Kinetics' predecessor in interest “**all minerals in, on or under**” 408 acres of property in the Geysers.
- **Lease:** In 1963, holders of the surface estate (the Currys) leased to Magma and Thermal (who assigned a portion of the lease to Union Oil) the right to “drill for, produce, extract, remove and sell steam and steam power and extractable minerals from, and utilize, process, convert and otherwise treat such steam and steam power upon, said land, and to extract any extractable minerals.”
- **1973:** Geothermal Kinetics drilled a geothermal well and filed quiet title action.
- **Union Oil's Argument:**
  - Geothermal energy is not a mineral. It's heat.
  - Civil Code 829: “The owner of land in fee has the right to the surface and to everything permanently situated beneath or above it.”
  - Deed to mineral estate never mentioned “Geothermal Resources”
- **Holding:** Absent any expressed specific intent to the contrary, the general grant of minerals includes a grant of geothermal resources.

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# Ownership of Geothermal Resources

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## *Pariani v. State of California*, 105 Cal.App.3d 923 (1980)

- **Facts:**
  - Patents: Landowners received title to certain lands in The Geysers from patents issued by the State of California between 1949 and 1956.
  - Reservation Clause: Patents reserved to the State of California “all oil, gas, oil shale, coal, phosphate, sodium, gold, silver, and **all other mineral deposits** . . . And the right to drill for and extract such deposits of oil and gas, and to prospect for, mine, and remove such deposits of other minerals from said lands.”
  - Quiet Title: Landowners brought action to quiet title to geothermal resources.
- **Holding**: Geothermal resources underlying patented lands were “mineral deposits” and “mineral water” and were reserved to the state. PATENTEES OUT OF LUCK (...and a lot of \$\$\$)

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# Ownership of Geothermal Resources

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## Lessons:

### 1. Chain of Title:

- Before entering any (particularly Private) lease, or purchasing an estate with the assumption of acquiring geothermal resources perform a thorough search of the chain of title for reservations that may affect ownership of GR.
- Even if there is a specific reservation or grant of GR, one has to determine if the grantor possessed the property right in the first place!

### 2. Federal Split Estates:

- If the land was patented under Federal land disposition act (other than SRHA), carefully review the grant and reservation language.
- Grant/Reservation language differs from act to act, and Congressional intent to reserve the mineral estate may not have been as evident as in the SRHA.

### 3. State Law: Title is usually a matter of state property law.

- Know how your state classifies geothermal resources.
- Look for case law construing grant clauses or statute.
- If *Geothermal Kinetics* was a case in Washington, Colorado, or Nevada, it may have turned out differently given the grant language!!

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# ***FEDERAL GEOTHERMAL LEASING***

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# Federal Geothermal Leasing – Pre-1970

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## Pre-1970

- **Limited Development:** Development of geothermal resources was limited due to the legal ambiguities surrounding its characterization.
- **How Early Developers Did It:** Developers sought claims to geothermal resources on Federal lands through the claims process provided under the General Mining Law of 1872 and the Mineral Leasing Act.
  - **Example:** Magma Power Company located placer mining claims.
- **Agency Pushback:**
  - DOI had rejected both the General Mining Law of 1872 and the Mineral Leasing Act as legal bases for exploring and developing geothermal resources on public lands (e.g., Aug. 25, 1966 letters from Secretary of Interior to House Committee on Interior and Insular Affairs).
  - Asserted that geothermal resources were water and thus governed by state water laws. Concerned that development would affect state groundwater appropriation systems.

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## Federal Geothermal Leasing – Geothermal Steam Act of 1970

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### Geothermal Steam Act of 1970

- **Importance:**
  - Provided DOI with specific authority that it previously claimed to lack to issue leases for geothermal development.
  - Rights to develop/utilize geothermal resources owned by the United States may be acquired *solely in accordance with the provisions of the GSA.*
- **Jurisdiction:** GSA, Section 3 (30 U.S.C. 1002)
  - “**Subject to the provisions of Section 15** (30 U.S.C. 1014), of this Act, the Secretary of the Interior may issue leases for the development and utilization of geothermal resources (1) in lands administered by him, including public, withdrawn, and acquired lands, (2) in any national forest or other lands administered by the Department of Agriculture through the Forest Service, including public, withdrawn, and acquired lands, and (3) ***in lands which have been conveyed by the United States subject to a reservation to the United States of the geothermal resources therein.***”

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## Federal Geothermal Leasing – Geothermal Steam Act of 1970

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### **BLM IS YOUR FRIEND:**

- **Only Way to Acquire Right to Federal GR:** The leasing process, managed by BLM, is the only way to acquire a legal right to explore for and develop geothermal resources on Federal lands or if the geothermal resources have been reserved to the Federal government (almost).
- **2 Exceptions:** Issuance of Geothermal Leases are NOT issued under the GSA under the following circumstances:
  - DoD may develop geothermal resources on lands within DoD's jurisdiction (10 U.S.C. 2698) (e.g., China Lake Naval Weapons Center); and
  - Offshore geothermal leases are authorized and governed by the Outer Continental Shelf Lands Act (43 U.S.C. 1331).

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## Federal Geothermal Leasing – Geothermal Steam Act of 1970

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### A Couple Rhetorical Questions:

- **“Subject to Section 15”? What’s that?**
- **Patented/Granted Lands with Mineral Reservation: What do you mean I have to go to the BLM? I have a lease from the private surface owner?**

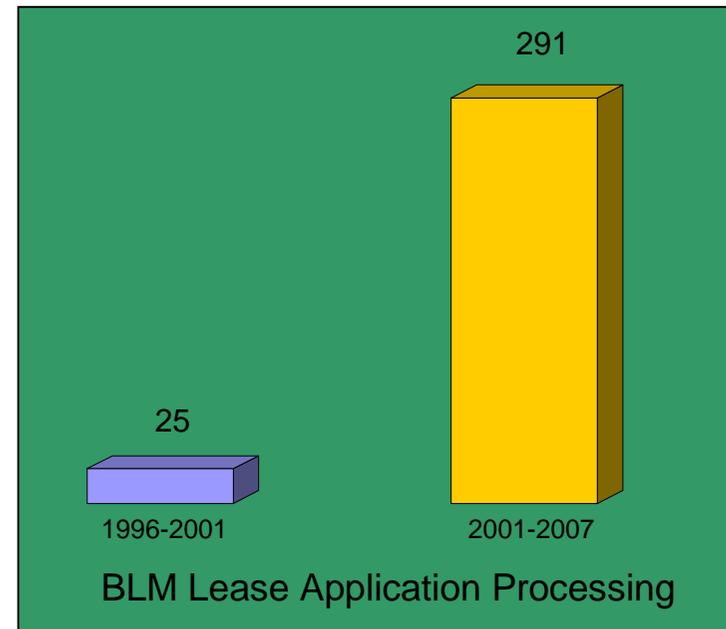
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## Federal Geothermal Leasing – Geothermal Steam Act of 1970

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### Restrictions on Secretary's Authority (Section 15)

- **USDA/DOE Consent Requirement:**
  - Secretary of Agriculture and Secretary of Energy must consent to leases associated with lands managed by the Forest Service and DOE (under the Federal Power Act), respectively;
  - Both Secretaries may subject leases to additional terms and conditions.
- **EPAct05 and MOU:**
  - EPAct required Secretary of Interior and Secretary of Agriculture to sign a MOU within 180 days of enactment to coordinate leasing on managed lands.
  - BLM Director and Chief of the US Forest Service signed MOU on 04/14/2006, which created administrative procedures for processing lease applications and to **reduce the backlog of lease applications.**



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## Federal Geothermal Leasing – Geothermal Steam Act of 1970

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### Restrictions on Secretary's Authority (Section 15) (Cont.)

- **Lands Off Limits (Original GSA – Very similar to Current Statute):**
  - Lands under the Act of August 25, 1916 (Act to Establish a National Parks Service)
  - Lands within National Recreation Areas
  - Lands in fish hatcheries, wildlife refuges, game ranges, wildlife management areas, waterfowl protection areas, or lands acquired for the protection of fish/wildlife threatened with extinction
  - Tribal or individually owned Indian trust or restricted lands, in or outside of Indian reservations.
- **2007 Rule (43 C.F.R. 3201.11) – More Detailed! Additional restrictions include:**
  - Lands that may be “unnecessarily or unduly degraded” by geothermal operations (Discretion)
  - Lands where, after comment, Secretary determines operations would adversely affect a *significant thermal feature* within the NPS. List maintained which includes: (1) 16 statutorily listed thermal features; and (2) those thermal features designated as “significant” in 18 Fed. Reg. 28790. List may be updated after notice and comment.
  - Island Park Geothermal Area (prohibited following EIS and pursuant to P.L. 98-437).
  - Lands under Section 43 of the Mineral Leasing Act. These lands include (1) wilderness areas or wilderness study areas administered by BLM or another surface management agency; (2) lands designated by Congress as wilderness study areas; and (3) Lands within areas allocated for wilderness or further planning in Executive Communication 1504, 96<sup>th</sup> Congress.

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# Federal Geothermal Leasing – Geothermal Steam Act of 1970

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## Split Estate Lands

- **GSA Section 3:**
  - Secretary of Interior may issue leases for development and utilization of [Geothermal Resources]: *“in lands which have been conveyed by the United States subject to a reservation to the United States of the geothermal resources therein.”*
- **Issue: Who Owns the Geothermal Resources? Federal government or patentee?**
  - GR Not Part of Property Lexicon: Ownership of minerals, oil and gas were familiar concepts of property law when most land grant statutes were passed and patents issued. The concept of ownership over geothermal resources was not and was therefore not particularly reserved.
  - General Rule: Legal title to the lands patented under these statutes (e.g., Stock-Raising Homestead Act of 1916) passed to the patentee unless specifically reserved.
  - BIG DEAL: BLM Manages 58 Million Acres of split estate lands.

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## Federal Geothermal Leasing – Geothermal Steam Act of 1970

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### Split Estate Lands (Cont.)

- **Typical Situation:**
  - SRHA provided up to 640 acres of public land to private patentees described as a “stock-raising homestead entry.”
  - Reservation: SRHA requires all lands patented be “*subject to and contain a reservation to the United States of all the coal and other minerals in the lands so entered and patented, together with the right to prospect for, mine, and remove the same.*”
  - Back to the Beginning: *Are geothermal resources mineral, water or neither?*
- **How GSA Addressed:**
  - Past Reservations – Let the Courts Decide [Sec. 21(b); 30 USC 1020]: Required Secretary to report to Attorney General if development on patented lands is “imminent”, and AG is to institute an action to quiet title to geothermal resources in the U.S. If it is judicially determined that the mineral reservation did *not* include geothermal resources, authority ceased.
  - Future Reservations [Sec. 25; 30 U.S.C. 1024]: Geothermal resources are to be treated as any other mineral and specifically reserved.

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## Federal Geothermal Leasing – Geothermal Steam Act of 1970

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### **Split Estate Lands (Cont.)**

#### ***United States v. Union Oil Co., 549 F.2d 1271 (9<sup>th</sup> Cir. 1977)***

- **Facts:**
  - Union Oil Lease: Union Oil leased lands from landowners who received the land by patent under the SRHA and planned to develop wells for geothermal production.
  - Quiet Title Action: U.S. brought an action to quiet title of GR to determine if the mineral reservation in patents issued under the SRHA was sufficient to reserve the GR to the U.S.
- **Holding**: The mineral reservation in patents issued under SRHA reserving to the U.S. “all coal and other minerals” also reserved to the U.S. the geothermal resources.
- **Rationale**:
  - Congress kept the existing statutory reservation language going forward in GSA, so the SRHA reservation is capable of encompassing geothermal resources.
  - Intent of SRHA was to convey the surface to homesteaders for **agricultural** (grazing) purposes (640 acres needed) and retain valuable (energy) resources for the public.
  - Geothermal wells are not like water wells drilled by patentees to water their stock.

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## Federal Geothermal Leasing – Geothermal Steam Act of 1970

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### Split Estate Lands (Cont.)

#### ***Rosette Incorporated v. United States*, 277 F.3d 1222 (10<sup>th</sup> Cir. 2002):**

- **Facts:**

- Rosette was a collection of related corporations owning the surface estate to lands in New Mexico patented under the SRHA. Rosette had a rose growing operation that used the heat for greenhouses.
- Lightning Dock Geothermal held BLM Geothermal Lease, but Rosette was operator.
- Rosette filed an action for quiet title, ejectment and declaratory judgment against US, claiming the geothermal resources were not reserved minerals under the SRHA.

- **Issues:**

- Are GR “minerals” and encompassed by the SRHA reservation? (*Yes. Union Oil*)
- If so, are *these* low temp GR “minerals”? (*Yes, temperature doesn’t matter*)
- If so, does Rosette still have a right to use GR as surfaceholder to advance his homestead (growing crops)? (*Maybe, but not in these circumstances. Use of GR to water stock or raise edible crops may be within the patent, but not use of the heat for a commercial rose operation*)

- **Different Analysis:** Supreme court had construed the scope of the mineral reservation under SRHA in *Watt v. Western Nuclear* (1983). *Union Oil* was earlier and 9<sup>th</sup> Circuit.
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## Federal Geothermal Leasing – Geothermal Steam Act of 1970

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### Split Estate Lands – Surface Use Issues

#### Natural Questions:

- What about use of the surface in split estate situations?
- Isn't there some statute or BLM lease term giving me *the right to use so much of the surface of the land as may be necessary*?
- Does the surface owner have a veto or right to limit Lessee's use of the surface in any way?
- Do I need a separate agreement with the surface owner?

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## Federal Geothermal Leasing – Geothermal Steam Act of 1970

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### Split Estate Lands – Surface Use Issues (Cont.)

- ***Kinney-Coastal Oil Co. v. Kieffer, 277 U.S. 488 (1927)***
  - **Facts:**
    - Kieffer made a homestead entry of certain public lands, which were eventually patented to him pursuant to the Agricultural Entry Act of 1914.
    - Similar to the SRHA, the patent reserved to the United States “all the oil and gas in the lands so patented, and to it, or persons authorized by it, the right to prospect for, mine and remove such deposits from the same.”
    - The oil and gas rights associated with the land was leased to Kinney-Coastal Oil Co.
    - Kieffer attempted to subdivide the surface to develop it as a town site, and Kinney-Coastal sought an injunction which was granted in a lower court.
  - **Result:**
    - U.S. Supreme Court upheld the injunction on grounds that the town site would have interfered with the lessee’s right to use the surface for its oil and gas operations.
    - Even though the proposed oil and gas operations would occupy virtually the entire surface estate, such use was considered dominant. It was, in fact, the surface owner’s subdivision that would interfere with the mining operations, and not the other way around.

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## Federal Geothermal Leasing – Geothermal Steam Act of 1970

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### Split Estate Lands – Surface Use Issues (Cont.)

- **“Reasonably Incident”**: Generally the surface use must be “reasonably incident” to the production, removal, transportation, and marketing of oil, gas or minerals. The mineral owner must show due regard for the interests of the surface estate.
  - *Holbrook v. Continental Oil Company; Bourdrieu v. Seaboard Oil Corp.*
- **Statutory Remedy**: Sec. 299 of the SHA creates a statutory remedy that requires compensation of the surface owner for damage to “crops or tangible improvements”.
  - But what if the entire surface is impaired?
  - Damages remedy presumably compensates the surface owner, but no case has answered this question conclusively.
- **GSA Section 14 (30 U.S.C. 1013)**: “Subject to the other provisions of this chapter, a lessee shall be entitled to use so much of the surface of the land covered by his geothermal lease **as may be found by the Secretary** to be necessary for the production, utilization, and conservation of geothermal resources.”
- **Principle of Multiple Use (GSA § 17; 30 USC 1016)**: Operations cannot “unreasonably interfere” with other uses/vice versa.

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## Federal Geothermal Leasing – Geothermal Steam Act of 1970 – Split Estate Lands

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### Split Estate Lands – Surface Use Issues (Cont.)

#### ***Occidental Geothermal v. Simmons*, 543 F.Supp. 870 (N.D. Cal. 1982):**

- Occidental Geothermal held a BLM geothermal lease (1979) on lands patented to Charles Simmons' and Robert Curtis' predecessors in interest under SRHA.
- Lease granted Occidental the right to “*construct or erect and to use, operate and maintain . . . all wells, pumps, pipes, pipelines, buildings, plants, sumps brine pits, reservoirs . . . electric power generating plants . . . and to use so much of the surface of the land as may be necessary for the . . . full enjoyment of the rights granted by this lease.*”
- Occidental sought declaratory judgment establishing the right to build and operate facilities to generate electricity from the geothermal resources *without the surface owners' consent.*
- **Holding:**
  - SRHA's mineral reservation included, by extension, reservation of the United States' right to site a geothermal power plant on the surface.
  - Incident to GSA's authorization to issue geothermal leases is an authorization to lease the right to build and operate power plants on the surface of the property.
- **Rationale:**
  - Geothermal resources cannot be transported long distances
  - “To hold that geothermal lessees own the rights to geothermal resources and yet do not have the right to exploit those resources without the consent of the owners of surface interests would reduce the holding of *Union Oil* to an empty theoretical exercise.”

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## Federal Geothermal Leasing – Geothermal Steam Act of 1970

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### Split Estate Lands – Surface Use Issues (Cont.)

#### Current BLM Policy on Managing Split Estate Situations

- **EPA05 Sec. 1835:** Required the Department of Interior, in consultation with private surface owners, industry and interested parties, to review policies and practices regarding management of Federal minerals and effects on surface owners.
- **Comments Accepted:** Accepted email comments and conducted 9 “listening sessions”.
- **Developed Policies:**
  - Surface Use Agreement or Waiver: Developers must negotiate with surface owners in good faith and attempt to enter a **surface use agreement** or to obtain a waiver.
    - Access rights
    - Compensation for damage
  - Bond (Rare): Where agreement cannot be reached, BLM may permit the posting of a bond to protect the interests of the surface owner. Amount depends on the land disposal statute. Minimum: \$1,000.
  - Interface with Surface Owners: On-site meetings to identify development preferences and reclamation status.

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## Federal Geothermal Leasing – Geothermal Steam Act of 1970

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### Split Estate Lands – Surface Use Issues (Cont.)

#### **\*\*\*THE BOTTOM LINE\*\*\***

- At the end of the day, the developer/lessee must ask: What will a bank lending money to my project, or private equity taking an equity stake in my project accept as a reasonable mitigation of risk in a project financing scenario?
- Is it preferable to rely on a case law right for access to the surface and avoid negotiations with intransigent surface owners and payments?

OR

- Is it preferable to negotiate an “Access Agreement” locking down the right as a lease or license? [**Probably More Financeable**]

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# Federal Geothermal Leasing

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**So What's a Federal  
Geothermal Lease Look Like?**

**and**

**What's the Process?**

**DISCLAIMER: THIS IS AN OVERVIEW. MANY CAVEATS EXIST IN THE RULES BASED ON ANY GIVEN SET OF FACTS AND CIRCUMSTANCES; THEREFORE, CONSULT THEM RATHER THAN RELYING ON THIS OVERVIEW!**

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### The 2007 Rules (Effective June 1, 2007):

- **Rulemaking authorized by GSA Section 24 (30 USC 1023):** The Secretary of Interior “shall prescribe such rules and regulations as he may deem appropriate to carry out the provisions of this chapter.”
  
- **List of Issues That May be the Subject of Regulation:**
  - Prevention of waste
  - Development and conservation of resources
  - The protection of the public interest
  - Assignment, segregation, extension of lease terms
  - Relinquishment of leases
  - Unitization and pooling
  - Royalties
  - Surety Bonds
  - Use of the surface by Lessee

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### Applicability of the 2007 Rules to Various Leases:

- **Leases Issued Pre-August 8, 2005:**
  - Subject to the 2007 Rules except for regulatory provisions relating to:
    - Royalties
    - Minimum royalties
    - Rentals
    - Primary terms
    - Lease Extensions
    - Diligence and annual work requirements
    - Renewals
  - These matters are subject to the 43 CFR Part 3200 and 3280 (Unit Agreements) in effect on August 8, 2005 (those issued in 2004).
  - Election: Those leaseholders **could have elected** to be subject to the new rules, on these matters, but the deadline has passed (December 1, 2008).
  
- **Pending Lease Applications As of August 8, 2005**
  - Lease applications pending were subject to the 2007 Rules except for regulatory provisions relating to royalties, minimum royalties, rentals, primary term and lease extensions.
  - Election: After 08/08/2005 but Before 06/01/07, elect by 12/1/2008. If issued after 06/01/07, must elect before lease is issued.

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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- **The “Lessee Legal Universe”:** Lessees must always comply with:
  - GSA and the 2007 Rules
  - Geothermal Resource operational orders
  - Notices to Lessees
  - Lease terms and stipulations
  - Approved plans and permits
  - Conditions of approval
  - Verbal orders by the BLM that will be confirmed in writing and other instructions
  - Any other applicable laws and regulations
- **Note on Federal Actions:**
  - Granting permits and leases is considered an “agency action” triggering statutes such as NEPA, ESA, NHPA, etc. This is generally cause for significant delay and the original backlog of leases. PEIS issued in Oct. 2008 will help.
- **Two Types of Leases (§ 3200.6):** (1) Geothermal Leases; (2) Direct Use Leases.

# Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

## The Current BLM Lease – 3 pages total (2 + Instruction Page).

Form 3200-24a (July 2007)		UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT		Serial No.
<b>OFFER TO LEASE AND LEASE FOR GEOTHERMAL RESOURCES (For New Leases Issued Under the Energy Policy Act of 2005 (August 5, 2005))</b>				
The undersigned (see page 2) offers to lease all or any of the lands in item 2 that are available for lease pursuant to the Geothermal Steam Act of 1970, as amended (30 U.S.C. 1001-1025).				
<b>READ INSTRUCTIONS BEFORE COMPLETING</b>				
1. Name	Ia. Street			
Ib. City	Ic. State	Id. Zip Code		
2. Surface managing agency if other than BLM: _____ Unit/Project: _____				
Legal description of land requested (segregate by public domain and acquired lands): Enter T., R., Meridian, State and County				
				Total Acres Applied for _____
				Percent U.S. interest _____
Amount remitted: Processing Fee \$ _____ Rental Fee \$ _____				Total \$ _____
<b>DO NOT WRITE BELOW THIS LINE</b>				
3. Land included in lease: Enter T., R., Meridian, State and County				
				Total Acres in Lease _____
				Rental Retained \$ _____
In accordance with the above offer, or the previously submitted competitive bid, this lease is issued granting the exclusive right to drill for, extract, produce, remove, utilize, sell, and dispose of all the geothermal resources in the lands described in Item 3 together with the right to build and maintain necessary improvements thereon, for a primary term of 10 years and subsequent extensions thereof in accordance with 43 CFR subpart 3207. Rights granted are subject to applicable laws, the terms, conditions, and attached stipulations of this lease, the Secretary of the Interior's regulations and formal orders in effect as of lease issuance, and, when not inconsistent with the provisions of this lease, regulations and formal orders hereafter promulgated.				
Type of Lease:	THE UNITED STATES OF AMERICA			
<input type="checkbox"/> Competitive	BY _____			
<input type="checkbox"/> Noncompetitive	(Signing Official)			
<input type="checkbox"/> Noncompetitive direct use (43 CFR subpart 3205)	(Printed Name)			
Comments:	(Title) (Date)			
	EFFECTIVE DATE OF LEASE _____			
	Check if this is a converted lease <input type="checkbox"/>			
	EFFECTIVE DATE OF LEASE CONVERSION _____			

(Continued on page 2)

4. (a) The undersigned certifies that:  
(1) The offeror is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States, any State or the District of Columbia; (2) All parties holding an interest in the offer to comply with 43 CFR part 3200 and the authorizing Act; (3) The offeror is a charitable, religious, or scientific institution; or (4) The offeror is not considered a minor under the laws of the State in which the lands covered by this offer are located.  
(b) The undersigned agrees that signing this offer constitutes acceptance of this lease, including all terms, conditions and stipulations of which the offeror has been given notice, and any amendment or separate lease that may cover any land described in this offer open to lease application at the time this offer was filed but omitted for any reason from this lease. The offeror further agrees that this offer cannot be withdrawn, either in whole or part, unless the withdrawal is received by the proper BLM State Office before this lease, an amendment to this lease, or a separate lease, whichever covers the land described in the withdrawal, has been signed on behalf of the United States.

This offer will be rejected and will afford the offeror no priority if it is not properly completed and executed in accordance with the regulations or if it is not accompanied by the required payment. Title 30 U.S.C. § 1001 makes it a crime for any person knowingly and willfully to make in any Department or agency of the United States any false, fictitious, or fraudulent statement or representation as to any matter within its jurisdiction.

Duly executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

(Printed Name of Lessee or Attorney-in-Fact)

(Signature of Lessee or Attorney-in-Fact)

### LEASE TERMS

**Sec. 1. Rentals—Rentals must be paid to the proper office of the lessee in advance of each lease year. Annual rental rate per acre or fraction thereof, as applicable, are:**  
(a) Noncompetitive lease (includes post-sale parcels not receiving bids, a direct use lease or a lease issued to a mining claimant): \$1,000 for the first 10 years; thereafter \$500; or  
(b) Competitive lease: \$2,000 for the first year; \$3,000 for the second through fourth year; thereafter \$5,000.  
Annual rental is always due on the first day of the lease year, regardless of whether the lease is in a unit or outside of a unit, the lease is in production or not, or royalties or direct use fees apply to the production.  
Rental may only be credited toward royalty under 43 CFR 3211.15 and 30 CFR 218.303. Rental may not be credited against direct use fees. Failure to pay annual rental timely will result in late fees and will make the lease subject to termination in accordance with 43 CFR 3213.14.

**Sec. 2. (a) Royalties—Royalties must be paid to the proper office of the lessor. Royalties are due on the last day of the month following the month of production. Royalties will be computed in accordance with applicable regulations and orders. Royalty rates for geothermal resources produced for the commercial generation of electricity but not sold in an am's length transaction are: 17.5 percent for the first 10 years of production and 3.5 percent after the first 10 years. The royalty rate is to be applied to the gross proceeds derived from the sale of electricity in accordance with 30 CFR part 206 subpart H.  
The royalty rate for hydrothermal resources derived from geothermal resources that are minerals specified in section 1 of the Mineral Leasing Act (MLA), as amended (30 U.S.C. 181), is 5 percent, except for steam compounds, for which the royalty rate is 2 percent for steam produced between September 25, 2006 and September 25, 2011 (Pub. L. No. 109-218, § 102, codified at 30 U.S.C. 242). No royalty is due on hydrothermal gas not specified in 30 U.S.C. § 181 (43 CFR 3211.39.)  
If this lease or a portion thereof is committed to an approved commercialization or unit agreement and the agreement contains a provision for allocation of production, royalties must be paid on the production allocated to the lease.  
(b) Am's length transactions—The royalty rate for geothermal resources sold by you or your affiliate at am's length to a purchaser is 10 percent of the gross proceeds derived from the am's length sale (43 CFR 3211.17, 3211.39).  
(c) Advanced royalty—In the absence of a suspension, if you cease production for more than one calendar month on a lease that is subject to royalties and that has achieved commercial production, your lease will remain in effect only if you make advanced royalty payments in accordance with 43 CFR 3211.5(a) and 30 CFR 211.305.  
(d) Direct use fees—Direct use fees must be paid in lieu of royalties for geothermal resources that are utilized for commercial, residential, agricultural, or other energy needs other than the commercial production or generation of electricity, but not sold in an am's length transaction (43 CFR 3211.18, 30 CFR 206.56). This requirement applies to any direct use of federal geothermal resources for the resources exempted as described in 30 CFR 202.35(b) or the lease is covered by paragraph (c), below and is not limited to direct use leases. Direct use fees are due on the last day of the month following the month of production.  
(e) If the lease is a State, tribal, or local government covered by 43 CFR 3211.18(a)(3) and 30 CFR 206.56, check here . A lease under this paragraph is not subject to paragraph (d), above. In lieu of royalties, the lessee under this paragraph must pay a nominal fee of \_\_\_\_\_.**

**Sec. 3. Bonds—A bond must be filed and maintained for lease operations as required by applicable regulations.**

**Sec. 4. Work requirements, rate of development, utilization, and drainage—Lessee must perform work requirements in accordance with applicable regulations (43 CFR 3207.11, 3207.12), and must prevent unnecessary damage to, loss of, or waste of leased resources. Lessor reserves the right to specify areas of development and production and to require lessee to commit to a communitization or unit agreement, within 30 days of notice, if in the public interest. Lessee must drill and produce wells necessary to protect leased lands from drainage or pay compensatory royalty for drainage in the amount determined by lessee. Lessor will accept lessee from work requirements only when the lease overrules a mining claim that has an approved plan of operations and the BLM determines that the development of the geothermal resource on the lease would interfere with the mining operation (43 CFR 3207.13).**

**Sec. 5. Documents, evidence, and inspection—Lessee must file with the proper office of the lessor, not later than 30 days after the effective date thereof, any contract or evidence of other arrangement for the sale, use, or disposal of geothermal resources, hydrothermal produced, or for the sale of electricity generated using geothermal resources produced from the lease. At such times and in such form as lessee may prescribe, lessee must furnish detailed statements and all documents showing (a) amounts and quality of all geothermal resources produced and used (either for commercial production or generation of electricity, or in a direct use operation) or sold; (b) proceeds derived therefrom or from the sale of electricity generated using such resources; (c) amounts that are unreasonably lost or rejected before use; and (d) amounts of geothermal resources (as defined in 30 CFR 206.55) or electricity for lease operations, or otherwise used for lease operations related to the commercial production or generation of electricity; and (e) amounts and quality of all hydrothermal produced and proceeds derived from the sale or disposition thereof. Lessee may be required to provide plans and schematic diagrams showing development work and improvements, and reports with respect to certain interests.  
In a formal and manner approved by lessee, lessee must keep a daily drilling record, a log, and complete information on well surveys and tests; keep a record of subsurface investigations; and furnish copies to lessor when required.**

**Sec. 6. Documents, evidence, and inspection—Lessee must file with the proper office of the lessor, not later than 30 days after the effective date thereof, any contract or evidence of other arrangement for the sale, use, or disposal of geothermal resources, hydrothermal produced, or for the sale of electricity generated using geothermal resources produced from the lease. At such times and in such form as lessee may prescribe, lessee must furnish detailed statements and all documents showing (a) amounts and quality of all geothermal resources produced and used (either for commercial production or generation of electricity, or in a direct use operation) or sold; (b) proceeds derived therefrom or from the sale of electricity generated using such resources; (c) amounts that are unreasonably lost or rejected before use; and (d) amounts of geothermal resources (as defined in 30 CFR 206.55) or electricity for lease operations, or otherwise used for lease operations related to the commercial production or generation of electricity; and (e) amounts and quality of all hydrothermal produced and proceeds derived from the sale or disposition thereof. Lessee may be required to provide plans and schematic diagrams showing development work and improvements, and reports with respect to certain interests.  
In a formal and manner approved by lessee, lessee must keep a daily drilling record, a log, and complete information on well surveys and tests; keep a record of subsurface investigations; and furnish copies to lessor when required.**

**Sec. 7. Production of hydrothermal—If the production, use, or conversion of geothermal resources from these leased lands is susceptible of producing a valuable hydrothermal or hydrothermal product, including commercially demineralized water for beneficial uses in accordance with applicable State water laws, lessee may require substantial beneficial production or use thereof by lessee.**

**Sec. 8. Damages to property—Lessee must pay lessor for damage to lessor's improvements, and must save and hold lessor harmless from all claims for damage or harm to persons or property as a result of lease operations.**

**Sec. 9. Protection of diverse interests and equal opportunity—Lessee must maintain a safe working environment in accordance with applicable regulations and standard industry practices, and take measures necessary to protect public health and safety. Lessor reserves the right to ensure that production is sold at reasonable prices and to prevent monopoly. Lessee must comply with Executive Order No. 12164 of September 24, 1985, as amended, and regulations and relevant orders of the Secretary of Labor issued pursuant thereto. Neither lessor nor lessee's subcontractor may discriminate against any employee.**

**Sec. 10. Transfer of lease interests and relinquishment of lease—As required by regulations, lessee must file with lessor any assignment or other transfer of an interest in this lease. Subject to the requirements of 43 CFR subpart 3213, lessee may relinquish this lease or any legal subdivision by filing in the proper office a written relinquishment, which will be effective as of the date BLM receives it, subject to the continued obligation of the lessee and surety to be responsible for: paying all accrued rentals and royalties; plugging and abandoning all wells on the relinquished land; restoring and reclaiming the surface and other resources; and complying with 43 CFR 3204.4.**

**Sec. 11. Delivery of premises—At such time as all or portions of the lease are returned to lessor, lessee must place all wells in a condition for suspension or abandonment; reclaim the land as specified by lessor, and in a reasonable period of time, remove equipment and improvements not deemed necessary by lessor for preservation of producible wells or continued production of the lease resources.**

**Sec. 12. Proceedings in case of default—If lessee fails to comply with any provisions of this lease or other applicable requirements under 43 CFR 3204.4, and the noncompliance continues for 30 days after written notice thereof, this lease will be subject to termination in accordance with the Act and 43 CFR 3213. This provision will not be construed to prevent termination by lessor of any other legal and equitable remedy or action, including waiver of the default. Any such remedy, waiver, or action will not prevent later termination for the same default occurring at any other time. Whenever the lessee fails to comply in a timely manner with any of the provisions of the Act, this lease, the regulations or other applicable requirements under 43 CFR 3204.4, and immediate action is required, the lessee may enter on the leased lands and take measures deemed necessary to correct the failure at the lessee's expense.**

**Sec. 13. Heirs and successors-in-interest—Each obligation of this lease will extend to and be binding upon, and every benefit hereof will inure to, the heirs, executors, administrators, successors, or assigns of the respective parties hereto.**

(Continued on page 3)

(Form 3200-24a, page 2)

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### How New Parcels are Leased – Competitive Leasing (§ 3203.5 – 3203.18)

- **Nomination/BLM Inclusion:** Nomination by public (submit nomination form) or BLM
  - Lease Acreage Limits:
    - No smaller than 640 acres and no larger than 5,120 acres.
    - No person/entity may hold, directly or indirectly, more than 51,200 acres per state.
    - Exemption for lands that are subject to a Unit Agreement or other cooperative agreement
  - Legal Description of Land (PLLS; Metes and Bounds)
  - Cost: \$10 + \$0.10 per acre nominated
  - Can nominate blocks upon demonstration that resource could be produced as a unit
- **High Bidder:** Geothermal leases awarded to highest bidder
- **Required Sales:** BLM must hold a competitive lease sale at least once every 2 years in states with nominations pending (but may hold other sales as well).
- **Payment:**
  - High bidder must pay 20% of the bid, 100% of 1<sup>st</sup> year's rent, and \$140 processing fee by close of business on the day of the sale.
  - 80% balance due within 15 calendar days.
- **# of Sales:** 5 Lease Sales under new rules (See Timeline, Above).

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### How New Parcels are Leased – Noncompetitive Leasing (§ 3204.5 - 3204.15)

- **Leases Qualifying for Noncompetitive Issuance:**
  - Lands not receiving a bid (open for period of 2 years from day after date of sale)
    - First 30 Days: Only for parcels as configured in the Notice of Sale
    - After 30 Days: For any available lands covered by the competitive lease sale
    - Multiple Applications: If multiple applications for the same parcel are received, then:
      - Those Received on Day 1: BLM randomly selects the application.
      - Those Received Post-Day 1: First in time first in right, unless multiple applications received on the same day.
  - Direct use lease applications (under § 3205)
  - Lands subject to mining claims (if leased by party holding the mineral claim)
  - Leases pending as of August 8, 2005 for non-competitive lease sale
- **Fee:** \$365 + \$1 per acre (latter refundable if lease not issued or application withdrawn)
- **Amendment:** Applications may be amended
- **Withdrawal:** Applications may be withdrawn (in whole during first 30 days; then in whole or part)

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### **Direct Use Leasing**

- **Obtain by application:** Application includes:
  - Description of structures, wells pipelines
  - Description of utilization process
  - Description/analysis of anticipated reservoir production, injection, other characteristics
- **Notice:**
  - BLM must publish notice at least 90 days prior to lease sale.
  - If nomination is received by a third party, then DUL is included in next competitive sale
- **Fee:** ??? No DUL listed in fee schedule.
- **Limitations:**
  - Geothermal resources cannot be used to generate electricity or sold under DULs
  - 5,120 acres maximum but cannot cover more that BLM determines is “reasonably necessary for proposed use.
- **Amendment/Withdrawal:** Applications can be amended or withdrawn.

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### Term, Extension and Work Requirements

- **Primary Term:** 10 Years
- **Extensions – Initial Extension of 5 Years**
  - Before Year 10 – Either:
    - Satisfy Work Requirement (3207.11); OR
    - Must spend \$40 per acre (min) in development activities or pay BLM the equivalent (\$40 indexed for inflation every 3 years); OR
      - Geologic investigation
      - Drilling temperature gradient wells
      - Core drilling
      - Geochemical/geophysical surveys
      - Drilling production/injection wells
      - Reservoir testing, etc.
    - Submit documentation of production/utilization of geothermal resources.
    - ALSO: Comply with reporting requirements to verify claims/amounts spent.
  - End of Each Year During Initial Extension: Lessee must either:
    - Continue to satisfy work requirements by spending \$15/acre/year in development activities; OR
    - Pay BLM \$15/acre/year; OR
    - Demonstrate production/utilization of geothermal resources.

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### Term, Extension and Work Requirements

- **Extensions – Additional Extension of 5 Years (after Year 15)**
  - In Year 15:
    - Lessee must expend a minimum of \$15/acre in development activities that provide additional geologic or reservoir information.
  - End of Each Year During Additional Extension: Lessee must either:
    - Continue to satisfy work requirements by spending \$25/acre/year in development activities; OR
    - Pay BLM \$25/acre/year; OR;
    - Demonstrate production/utilization of geothermal resources.
  - Inflation Adjustment: \$15/\$25 expenditure thresholds adjusted for inflation every three years.
  - Carry Forward of Excess: Amounts expended in excess of \$15/\$25 thresholds can be carried forward to the next year in each extension block.

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### Term, Extension and Work Requirements (Cont.)

- **Extensions – Drilling Extension of 5 Years**
  - When Applicable:
    - Either:
      - Lessee hasn't satisfied requirements for initial or additional extensions; or
      - Lease is in its 20<sup>th</sup> Year; **AND**
    - Lessee has commenced drilling of a well before the end of such year, either for testing or producing a geothermal reservoir; **AND**
    - Lessee is drilling to a BLM-approved target based on geology.
  - The Last Straw: Lease will terminate upon expiration of the Drilling Extension unless Lessee qualifies for a Production Extension.

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### Term, Extension and Work Requirements

- **Extensions – Production Extension of Up To 35 Years**
  - When Granted: Extension granted if producing or utilizing geothermal resources in “commercial quantities”, meaning a sufficient volume (in terms of flow and temperature) of the resource to provide a reasonable return after meeting all costs of production.
  - Various reporting and information requirements
    - Definition of resource;
    - Description of commercial arrangements;
    - Economic data;
    - Description of actions taken to procure permits, etc.
  - Duration: Continues for 35 years so long as geothermal resources are being produced or utilized in “commercial quantities”
  
- **Renewal Of Up to 55 Years if producing or utilizing geothermal resources in commercial quantities**

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### Rents (43 C.F.R. 3211.11 - .016)

<u>Competitive Lease</u>	
Year	Rent (Per Acre)
Year 1	\$2.00
Year 2-10	\$3.00
Year 11+	\$5.00

<u>Non-Competitive Lease</u>	
Year	Rent (Per Acre)
Year 1-10	\$1.00
Year 11+	\$5.00

- Rent always due, whether producing or not, unless lease was not converted.
- Round up for partial acreage
- Rent always due in advance (e.g., rent for Year 11 due prior to the 10<sup>th</sup> Anniversary of the lease).
- Rates do not apply to leases in effect prior to 08/08/05 unless converted

## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

### Royalties (3211.17 - .21)

- **Credit:** Rent credited against royalties (but not DUL Fees). See MMS Regs.
- **Government Lessees:** Get a reduced rate on some royalties
- **Suspension/Waiver/Reduction of Rents/Royalties:** BLM has a process (3212.16-.17)
- **Other Rules:** Other rules apply for leases issued before 08/08/05, whether converted or not (specially negotiated or stated in lease)

<u>Electricity Royalties</u>	
Year	Royalty
Year 1-10 of production*	1.75%
Year 11+ of production	3.50%
* Commences upon Commercial Operation	
* Based on “gross proceeds” from sale	

<u>Other Royalties/Fees</u>	
Royalty	Amount
<b>Steam</b> <b>3211.17(a)(2)</b>	10% of gross proceeds if geothermal resources sold in arms-length transaction where utilized to generate electricity
<b>Miscellaneous</b> <b>3211.18</b>	<ul style="list-style-type: none"> <li>• Direct Use Fee; <u>OR</u></li> <li>• 10% of GP (If Arms Length)</li> </ul>
<b>Byproduct</b> <b>3211.19</b>	<ul style="list-style-type: none"> <li>• Royalty prescribed in Mineral Leasing Act regulations; <u>OR</u></li> <li>• 0% if not listed.</li> </ul>
<b>Direct Use Fee</b>	Consult MMS Fee Schedule

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### Rents and Royalties **Pre-EPAAct 05** (For Context)

- **Rents:**
  - Cease payment on completion of a well capable of production.
- **Royalties:**
  - \$2/Acre Minimum royalty upon completion of a well capable of production
  - 10%-15% of value of heat or energy. Ramp up over time when actually producing.

<u>Rents</u>	
Year	Rent (Per Acre)
Competitive	\$2.00
Non-Competitive	\$1.00

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### Other Leasing Provisions

- **Suspension**
- **Relinquishment**
- **Cancellation**
- **Termination**
- **Transfer**

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### **Suspension of Lease**

- **Suspension:**
  - Voluntary: Operator may request suspension of “operations and production” if producing from the lease. BLM determines if reasons justify suspension.
  - Forced: BLM may suspend Lessee’s operations for conservation.
- **Effect:**
  - Voluntary: Cease paying rents and royalties; work requirements suspended. Lease term extended day-for-day.
  - Forced: Rental and royalty obligations continue, unless suspension deprives Lessee of all beneficial use of the lease. Lease term extended day-for-day.
- **Duration:** Provided in suspension notice from BLM.
- **Termination of Suspension:**
  - Upon Lessee’s request and BLM approval. Cannot unilaterally resume operations.
  - Must resume paying rents and royalties.
- **Suspension Without Approval – Dangerous if Producing!**
  - Lease terminates if commercial production ceases for more than a month. Exceptions.

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### **Relinquishment or Cancellation of Lease**

- **Relinquishment (By Lessee):**
  - How: Lessee may relinquish a lease in whole or part upon written request and approval by BLM.
  - Why: Reduce rental payments.
  - Limitations/Caveats:
    - Lease must still contain the 640-acre minimum, or all lessee's leased lands must be in one section.
    - Must pay all rents/royalties due before relinquishment.
    - Must plug and properly abandoning all wells.
    - Restoration/reclamation of the surface.
- **Cancellation (By BLM):** Lease may be cancelled if it is “issued in error” effective immediately upon notice thereof.

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### Termination and Transfer of Lease

- **Termination (By BLM):**
  - Failure to pay rent to MMS. Can be 45 days late but 10% late fee.
  - Failure to pay royalties, upon 30 days written notice
  - Violation of the “**Lessee’s Legal Universe**,” upon 30 days written notice; however, cure periods and opportunities for appeal are provided.
    - GSA and the 2007 Rules
    - Geothermal Resource operational orders
    - Notices to Lessees
    - Lease terms and stipulations
    - Approved plans and permits
    - Conditions of approval
    - Verbal orders by the BLM that will be confirmed in writing
    - Other instructions
    - Any other applicable laws and regulations
- **Transfer of Lease:**
  - Interests: Can transfer record title to lease or operating rights. Other types.
  - Liability: Obligations transfer, but transferor still responsible for rents and royalties accruing prior to transfer and for plugging/abandoning existing wells.
  - Bond: Transferee must post bond.
  - All or Part: May transfer interest in whole or part (segregation). 640-acre rule.

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### Operations Authorizations - Overview

- **Exploration Operations**
  - Exploration Permits
  - Notice of Intent
- **Drilling Operations (Including Well Abandonment)**
  - Geothermal Drilling Permit (Form 3260-2)
- **Utilization Operations**
  - Facility Construction Permits
  - Commercial Use Permits
  - Site Licenses

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### Operations Authorizations – Overview (Cont.)

- **Commonalities Between All Operational Phases**
  - Same general **standards of conduct imposed**
    - Meet all operational and environmental standards
    - Protect public health, safety and property
    - Prevent unnecessary impacts to surface/subsurface resources
    - Activities must be consistent with the GSA's multiple use directive
    - Activities must comply with the Lessee Legal Universe
  - All require some form of **application** to BLM and **approval** or permit
  - All require procurement of appropriate **bonds**
  - BLM generally has the right to **inspect** to verify compliance
  - All require some sort of **reporting**

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### **Operations Authorizations – Exploration Operations**

- **Off Lease:** Upon BLM approval.
  - Anyone may explore BLM-managed lands even if leased to another person.
  - Exploration permits do not grant exclusive rights. Can't interfere with other operations.
- **On Lease:**
  - **NOI:** To conduct exploration operations on your lease, file a Notice of Intent (**Form 3200-9**) and secure approval from BLM. BLM checks compliance against **Lessee Legal Universe**.
  - **“Exploration Operations”:** Any activity relating to the search for evidence of geothermal resources where one is physically present on the land and may cause damage.
    - Geophysical operations
    - Drilling temperature gradient wells
    - Drilling holes for explosive charges
    - Construction of roads or trails
  - **NOT:** *Not drilling of wells intended for production, injection, or utilization.*
  - **Bond:** Must secure appropriate bond prior to conducting exploration operations.
- **Modification of Operations:** Sundry Notice (Form 3260-3). BLM must Approve.
- **Data/Reports:** Must submit all data gathered on your lease to BLM. **FOIA**.

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### **Operations Authorizations – Drilling Operations**

- **Coverage:**
  - Flow tests
  - Producing geothermal fluids
  - Injecting fluids
  - Redrilling, deepening, plugging back
  - Other drilling operations *other than exploration or utilization operations*
- **Application:** Submit application AND: (1) Form 3260-2; (2) an appropriate bond; (3) an operations plan; and (4) a drilling program. Authorizes both drilling and well pad construction. **Triggers NEPA.**
- **Well Pad Construction:**
  - Drilling Permit: If Lessee already has a drilling permit and has an appropriate bond, no further BLM permission required.
  - Sundry Notice: If Lessee doesn't have an approved 3260-2 or wishes to modify its drilling plan, then apply using Sundry Notice (Form 3260-3).
- **Multiple Wells:**
  - Operations Plan and Drilling Program may sometimes cover several wells; BUT
  - Separate drilling permit required for each well.
- **Modifications; Abandonment:** File and seek BLM approval of a Sundry Notice.

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### Operations Authorizations – Utilization Operations

- **Coverage:** Regulations cover permitting and operating procedures for:
  - Electrical generation facilities
  - Direct use facilities
  - Related utilization facility operations
  - Actual and allocated well field production and injection
  - Related well field operations (pipelines)
- **Permits Required:** Use of federal land to produce geothermal power requires:
  - Facility Construction Permit
  - Site License
  - Commercial Use Permit
- **Permit NOT Required:** A Site License and Facility Construction Permit are not required if the facility is being constructed on private lands, *including on split-estate lands where the surface is privately owned (e.g., SRHA)*; **however**, BLM still requires a Sundry Notice if such facilities are utilizing federal geothermal resources (e.g., slant drilling).
- **Site Investigations:** Prior to conducting site investigations that disturb the surface, Lessee must: (1) Describe proposed operations in Sundry Notice; and (2) procure bond.

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### **Operations Authorizations – Utilization Operations (Cont.)**

- **Construction:** Prior to building or testing/utilization facility, Lessee must submit:
  - Utilization Plan
    - general description of proposed facilities, operations, site preparation and surface disturbance activities, source and quality of water;
    - contour map;
    - construction and testing schedule;
    - general description of anticipated environmental impact and environmental mitigation measures; etc.
  - Completed and Signed Facility Construction Permit
  - Site License:
    - Application: (1) Legal description; (2) Affected acreage; (3) Filing Fee; (4) Site license bond; (5) First year's rent (if Lessee is operating the facility, no additional rent due).
    - Term: 30 Years with preferential right to renew.
    - Other Terms:
      - May be assigned or transferred
      - BLM may terminate; cure periods

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Part 3200)

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### **Operations Authorizations – Utilization Operations (Cont.)**

- **Commercial Use Permit:** Required prior to beginning **commercial operation**.
  - Application: Requires the following information
    - Design specifications and inspection/calibration schedule of meters
    - Utilization site schematic with location of each royalty meter
    - Copy of sales contract (PPA/Steam Sales Agreement)
    - Analysis of reservoir, production, and injection characteristics
    - Other information
  - Review:
    - BLM reviews application against Lessee Legal Universe;
    - Technical adequacy
    - Conformance with Utilization Plan
- **Operational Requirements**
  - General operator obligations
  - Environmental/Safety
  - Conduct a variety of measurements (production, injection and utilization)
  - Maintain metering equipment
  - Reporting obligations

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Parts 3217/3280)

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### Cooperative Development Agreements – Unitization (43 CFR Part 3280)

- **Concept:** Cooperative development of a common geothermal reservoir, field, or like area.
- **Purpose:** Protect the public interest by encouraging efficient, productive development of the resource, maximizing revenues, and conserving the resource.  **BLM FOCUS**
- **Mandatory/Voluntary:**
  - Holders of Federal, state or private geothermal resources may unitize voluntarily.
  - BLM may force unitization ONLY of Federal lessees.
- **Agreements**
  - Unit Agreement: Model Unit Agreement at 43 CFR 3286 (BLM vis-à-vis parties)
    - Unit Operator: Must agree on a single unit operator
    - Costs/Revenue Sharing: Based on proportion of acreage. May be modified.
    - Plan of Development
  - JOA/JDA: The economic and legal arrangement between the Lessees (private)
    - Must be entered within 180 days of signing the Unit Agreement, or BLM may impose.
- **Other Benefits:**  **BLM LESS CONCERNED**
  - Statewide acreage limits do not apply
  - Leases with terms that are expiring may be extended if committed to a unit.

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## Federal Geothermal Leasing – 2007 Rules (43 CFR Parts 3217/3280)

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### Cooperative Development Agreements – Communitization

- **Communitization (Drilling Agreements)**
  - Concept: Lessees cannot independently develop separate tracts due to well spacing or well development programs.
  - Mandatory/Voluntary: Agreements may be voluntary or BLM-imposed.

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# ***STATE GEOTHERMAL LEASING***

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# State Geothermal Leasing – Overview

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## Overview

1. **Determine how “Geothermal Resources” are defined.**
2. **Determine who owns the resource under state law.**
3. **If the State owns the resource,**
  - underlying state land,
  - subject to a reservation,
  - or an outright statutory assertion of ownership (e.g., Alaska)**then ascertain the exploration/leasing procedures for the applicable state.**

## Characterizing Geothermal Resources – The States

<u>State</u>	<u>Authority</u>	<u>Nature of Geothermal Resources</u>
Alaska	38.05.125	State owns geothermal resources. Surface owner has priority (38.05.181).
California	<i>Pariani</i>	<b>Mineral.</b> Conveyance/reservation of “all minerals” conveys/reserves GR.
Colorado	37-90.5-104	* If associated with Tributary Groundwater, usufructuary right (right of use). * Otherwise, runs with surface if not <u>specifically</u> reserved/conveyed.
Hawaii	182-1	<b>Mineral.</b> Conveyance/reservation of “all minerals” conveys/reserves GR.
Idaho	47-1602	<i>Sui Generis.</i> State claims ownership where it has reserved “all minerals”.
Montana	77-4-104	<i>Sui Generis.</i>
Nevada	534A.050	<b>Not Characterized (But taxed as a mineral).</b> Owner of real prop. owns GR unless reserved/conveyed.
New Mexico		<b>Mineral.</b> Conveyance/reservation of “all minerals” conveys/reserves GR.
Oregon	522.035	<b>Not Characterized.</b> Runs w/surface estate unless geothermal resources are specifically reserved/conveyed and is handled under mineral statutes.
Utah	73-22-8	<b>Water.</b> <u>BUT</u> ownership derives from interest in land, not appropriative right.
Washington	78.60.040	<i>Sui Generis.</i> Runs with surface if not specifically reserved.
Wyoming	41-3-901	<b>Water.</b> Acquired by application. The use of water for extracting heat is considered a beneficial use subject to prior rights (Title 41 Ch. 3).

# State Geothermal Leasing – CALIFORNIA

- **Obtaining A Lease**

- Via Prospecting Permit
  - 2-year exclusive right to prospect for GR.
  - May extend for 2 additional years.
  - Right to convert to a lease.
- Via Competitive Bid (CCR 2 §2249)
  - Any State lands may be nominated (by anyone) and designated for competitive lease sale.
  - Lands included in within a valid prospecting permit may be nominated but not leased until termination of the permit.

<b>Statute</b>	CPRC 6901-6925.2
<b>Regs</b>	CCR Title 2, 1900-2980.9
<b>Agency</b>	State Lands Commission
<b>Term</b>	<ul style="list-style-type: none"> <li>• 10 Years</li> <li>• Renewal if GR being or capable of being produced in commercial quantities</li> </ul>
<b>Rent</b>	\$1/Acre min. \$2/min after discovery of CQ
<b>Royalty</b>	<ul style="list-style-type: none"> <li>• Not less than 10% of gross rev. up to 16.66% if competitive</li> <li>• 2% for mineral products</li> </ul>

- **Surface Issues:**

- Split Estate: If lands have been sold by CA to private party subject to a mineral rights reservation (e.g., *Pariani*), surface owner has priority. (CPRC § 6912)
  - Permit/Lease: May file for permit or lease within **4 Months** of notice. Receives lease/permit if a qualified person, and if in the best interest of the state.
  - Competitive Lease: 30 Days to submit identical bid following notice.
- Right to Use (§ 6912): Permittee/Lessee entitled to use as reasonably necessary

# State Geothermal Leasing – IDAHO

## Obtaining A Lease

- **Competitive:** Lands within KGRAs leased by competitive bid at public auction
- **Non-Competitive:** Application made on an IDL form. Considered in order received.

## Highlights

- **Max Size:** 640 Acres (1 Section)
- **Right to Use Surface (47-1606):** “Paramount right” to use as much of the surface as necessary.
- **Exploration:** Must notify IDL prior to motorized exploration, but can casually explore after lease approval without notice.
- **Multiple Use:** Variety of regulations about activities on the surface (e.g., no drilling within 200 feet of structure).
- **Damages:** Must compensate surface lessees, grantees or contract owners for damage to crops/structures.
- **Water:** Right to use any private waters upon leased lands.
- **Title:** State does NOT warrant title.

<b>Statute</b>	I.C. 47-1601 to 47-1611
<b>Regs</b>	I.A.C. 20.03.15.000 through .120
<b>Agency</b>	IDL, Board of Land Commissioners
<b>Term</b>	<ul style="list-style-type: none"> <li>• 10 Years (Primary)</li> <li>• Continues in force if drilling is diligently and continuously prosecuted.</li> <li>• 40 years max once GR produced or utilized in paying quantities.</li> <li>• Preferential right to 2<sup>nd</sup> 40yr renewal.</li> </ul>
<b>Rent</b>	\$1/Acre/Year for first 5 years \$2/Acre/Year for second 5 years \$3/Acre thereafter
<b>Royalty</b>	<ul style="list-style-type: none"> <li>• 10% of value of GR for Primary Term</li> <li>• Not more than 15% of value of GR for Renewal Term</li> <li>• 5% for byproducts</li> </ul>

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## State Geothermal Leasing – NEVADA

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- **No Geothermal Leasing Statute/Regs:** NV does not have a statute or regulations pertaining specifically to leasing of state lands for geothermal development. Most of NV is Federal land (or at least Federal mineral estate).
  - NAC 321.030: Person desiring to use public lands must apply for authorization with the State Land Registrar.
- **Geothermal Statute/Regulations:**
  - Statute: NRS 534A.010-.050
  - Regulations: NAC 534A
  - Subject: Permits for drilling wells, appropriating water, and disposal of fluids.
  - Agencies:
    - Commission on Mineral Resources (Drilling Permits)
    - Conservation and Natural Resources-Division of Water Resources (Water Rights)
    - Conservation and Natural Resources – Bureau of Water Pollution Control (fluid disposal permits)

# State Geothermal Leasing – OREGON

- **Exploration Permit:** Required to “detect or assess” GR.
  - Can obtain 1-year exploration permit w/o a lease.
  - *Non-exclusive and no right to convert on discovery like California (and Alaska).*
- **Geo. Leases:** Required for drilling, removing, etc. GR.
  - Non-Competitive (Commercial):
    - Substantive procedural requirements apply to all leases, including amendments and renewals.
    - Priority goes to first qualified applicant to file.
    - Must submit a variety of “supplements” (EIR).
  - Non-Competitive (Domestic): Non-commercial, DUL.
  - Simultaneous: Separate process used in certain circumstances. Random drawing.
  - Competitive: For leasing in “Designated GR Areas.”
    - Lands added to DGRA upon discovery of GR
    - Reject lease applications w/i 7 mi. of discovery
    - Create “bidding units” on which bids accepted
- **3 Copies:** Applications sent to surface owner and various agencies. Agencies respond within 30 days (permit) or 60 days (non-competitive lease) with recommendation.

<b>Statute</b>	ORS Ch. 522 and 273
<b>Regs</b>	OAR Ch. 141, Div. 75
<b>Agency</b>	Department of State Lands
<b>Fee</b>	\$50 App.   \$100 Exp. Permit Iss.
<b>Term</b>	<u>Primary:</u> 10 Years <u>Renew:</u> 10 Years (if royalty pd = or exceeds rent)   5 Years if not <u>Maximum:</u> 50 Years w/ROFR
<b>Rent</b>	<u>Year 1-3:</u> \$3/ac (pd in advance) <u>Year 4:</u> \$4/ac <u>Year 5+ (inc. renewal):</u> \$5/ac Rent deducted from royalty
<b>Royalty</b>	<ul style="list-style-type: none"> <li>• 10% of “production value” (“PV” = Gross Sale Price <u>OR</u> a price reasonably equal to price others are paying)</li> <li>• 5% “miscellaneous”</li> <li>• 1% Byproducts</li> </ul>

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# State Geothermal Leasing

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## Closing Thoughts

- **Timetable:** Work closely with the appropriate state and local officials early in the process and build a timetable. *It always takes longer than you think!*
- **Delays:** While BLM *had* a backlog, states are often slow to act on permit or lease requests.
- **Example – California (School Lands)**
  - 2007: 5 Applications for Prospecting Permits, none approved.
    - 3 Complete (Geysers), but waiting for staff to examine the suitability of offering the lands for lease by competitive public bid
    - 2 Remained Incomplete (Salton Sea/Truckhaven)
  - 2006: 1 Application for Prospecting Permit approved – *First issued since 1984.*
    - 2 Remain Incomplete (Salton Sea/Truckhaven)
  - 2005: 1 Application for Prospecting Permit received, 2 incomplete
  - 2004: 1 New lease issued covering 1,657 acres – *First new geothermal lease in ten years.*

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# ***GEOHERMAL LEASEING ON PRIVATE LANDS***

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## Private Geothermal Leases – Typical Terms

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- Grant and Reservation
- Water Rights
- Term and Extension
- Rent and Royalties
- Taxes
- Partial Surrender of Premises
- Covenants Regarding Surface Use/  
Development
- Combinations
- Environmental Risk Allocation
- Liens and Financing
- Indemnification
- Insurance
- Default and Remedies
- Dispute Resolution
- Recording and Estoppel Certs
- Representations and Warranties
- Division of Ownership

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# Private Geothermal Leases – Typical Terms

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## Grant Clause

- **Draft the Grant Clause Broadly**

- Components: Extremely important to include all rights that are necessary to develop the project.
  - Lease to Geothermal Resources
  - Lease/License to use and occupy the surface for all purposes relating to developing GR
  - Ingress and Egress
  - First priority right to use water from Lessor’s wells or ponds
  - First priority right to use rock, sand or gravel
- Example: “Lessors hereby lease, let and demise, **exclusively** unto Lessee and its successors and assigns, the **Leased Substances** (including the right to explore for, extract and produce the same) *together with a lease to the Premises* for Lessee’s use of the **Premises** for any lawful purposes related to **Geothermal Energy Development**.”

- **Exclusive vs. Non-Exclusive Rights**

- **Financiers will Scrutinize**

- **Reservations**: Typically include Lessor’s rights in minerals (other than the Leased Substances), oil and gas, and to develop the surface. No unreasonable interference.

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# Private Geothermal Leases – Typical Terms

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## Water Rights and Wells

- **Necessary for development (e.g., cooling water)**
- **May be in Grant Clause or other section of the Lease**
  - Lessor agrees to provide free use from ground or surface water to which it has a permit or appropriative right.
  - Acknowledgement by Lessor that a certain quantity of water is necessary for development.
  - Agreement by Lessor that Lessee may file applications to appropriate and use ground water.
  - May include a covenant by Lessor to assist or cooperate with Lessee to acquire water rights.
- **Language regarding:** (1) protection of Lessor's water supply from contamination (well placement); (2) no impact resulting from Lessee's use.
- **State Law:** Review state law carefully for either benefits (e.g., waivers from permitting or establishing appropriative right) or requirements.

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# Private Geothermal Leases – Typical Terms

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## Term & Extension

- **Primary Term:** Often 10 years (e.g., Federal and many state leases).
- **Renewal – Draft Broadly:**
  - Should continue if Leased Substances are being produced
  - Should continue if work is diligently being prosecuted
  - Should continue if there are one or more wells capable of producing GR
  - Should continue if the land is unitized or combined with other land

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# Private Geothermal Leases – Typical Terms

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## Consideration for the Lease – Rent

- **Signing Bonus:**
  - Paid often as an inducement to enter the lease. May be key to competing with other developers/lessees.
  - Need to be clear whether this is in addition to the first year's rent or covers the rent.
  - Clawbacks in certain cases (e.g., breach of representation) or escrow?
- **Rent:**
  - Rent generally paid per acre.
  - \$1-\$5 in Federal or State leases; Private leases are often more.
  - When is it due? Paid in advance?
  - Is rent always paid (e.g., Federal), or does the Lessee cease paying rent when royalties are paid?
  - Is rent credited against amount of royalties due when commercial production commences?

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# Private Geothermal Leases – Typical Terms

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## Consideration for the Lease – Royalties

- **Electricity Royalty:**
  - Federal: 1.75% first 10 years; 3.5% after 10 Years on sale of electricity; 10% Steam
  - State: Often up to 10% of Gross Revenue/Production Value
  - Definition of “Gross Proceeds”/“Net Proceeds”:
    - Taxes
    - Contract damages (e.g., IPP’s payment to utility under PPA for delay or delivery failure.
    - Parasitic load
    - Transmission costs
    - Proceeds from environmental attributes (what if they are bundled?)
  - Affiliated vs. Arms Length Transactions
  - Circumstance-Specific: These clauses need to be drafted to the particular circumstances of the Lessee (e.g., IPP, utility)

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# Private Geothermal Leases – Typical Terms

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## Consideration for the Lease – Royalties (Cont.)

- **Byproduct Royalty:** Federal = all minerals or other products with a value less than 75% of the steam that no person would otherwise extract and produce by themselves.
- **Miscellaneous Royalty:**
  - Direct Use
  - Valuable minerals (e.g. Lithium)
  - Steam sold to third party
- **Minimum Royalty:**
  - Should there be a royalty for wells drilled but not yet producing?
  - Incentive to develop?
  - In addition to rent or in lieu of rent?
- **Renegotiating Royalty:** Given long terms and infinite renewals, many leases have language regarding renegotiating the royalty after 30 years based on rates “prevailing in the area.”

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# Private Geothermal Leases – Typical Terms

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## Taxes

- **Typical Lessee Taxes**
  - Taxes on its operations
  - Taxes on its lease interest
- **Typical Lessor Taxes**
  - Real property taxes
  - All taxes on Lessor's personal property
- **Reimbursement**
  - Increased real property taxes associated with improvements
  - Increased real property taxes associated with loss of exemptions (e.g., agricultural land now taxed as industrial)
- **Lessee's Right to Pay:**
  - May want to include right to pay Lessor's tax liens to avoid issues later.
  - Set-off against rents/royalties.

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# Private Geothermal Leases – Typical Terms

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## Partial Surrender/Quitclaim

- **Lessee's Right:**
  - Lessee may want to include a right to surrender portions of the Lease that, after exploration, it determines are not suitable for use or production. Reduce rent.
  - May be conditioned upon Lessee's being current on all rent/royalties
  - May be conditioned upon Lessee's reclamation obligations
- **End of Initial Term:** This surrender may occur automatically at the end of the initial term with respect to non-producing lands.
- **Perpetual Easements:**
  - May need easements or rights of way for transmission, pipelines, roads, etc. to access lands still under lease, or adjacent/nearby property also being developed.
  - Should not be terminable by Lessors.
  - Additional fee (e.g., \$1 per foot of pipeline or road).
  - May be a separate clause for Site Lease or purchase of plant site.
  - **Better to negotiate up front rather than have this issue tie up development later!!**

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# Private Geothermal Leases – Typical Terms

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## Covenants Regarding Surface Use/Development

- **Notice prior to certain activities**
  - First entry
  - Blasting
  - Any activities within a certain distance of structure
- **Standard of Care:**
  - Good Industry Practices
  - No unreasonable interference with Lessor's current activities
  - No waste of the resource
  - Compliance with applicable laws
- **Quiet Enjoyment:**
  - Lessor won't unreasonably interfere with Lessee's activities.
  - Lessor won't enter agreements with third parties that impact Lessee's operation.

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# Private Geothermal Leases – Typical Terms

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## Covenants Regarding Surface Use/Development

- **Property Damage (Reciprocal)**
  - **Limits on well drilling proximity or other operations**
  - **Operational Requirements**
    - Roads
    - Fences to keep livestock out of facilities
    - Dust mitigation; Fire suppression
    - Other... (Place or include as an Exhibit)
  - **Information**
  - **Procurement of bonds**
  - **Procurement of governmental authorizations**
  - **Ownership of Improvements**
  - **Reclamation Obligations**
    - Abandonment of wells
    - Recontouring the surface
    - Environmental clean-up
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# Private Geothermal Leases – Typical Terms

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## Combinations – Pooling/Unitization

- **Make it Lessee's Right:**
  - Should always include the right to unitize or combine with lessee's other leases or with a third party.
  - Include right to reduce, enlarge, modify or dissolve the unit ("Participating Area").
  - Federal leaseholders cannot force the private leaseholder to unitize, but it may be beneficial to do so.
  - Some states have statutes requiring unitization in certain circumstances.
  - Exercised by notice to Lessor.
- **Royalty Re-Configuration:**
  - Include a clause regarding how the royalty owing to Lessor will change.
  - Based on surface area, or some other measurement?

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# Private Geothermal Leases – Typical Terms

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## Environmental Risk Allocation

- **Lessor's Obligations**
  - Known Environmental Conditions
  - Other Pre-Existing Environmental Conditions
  - Responsible for its "Releases"
  - Indemnification
- **Lessee's Obligations**
  - Covenant of operating consistent with Good Industry Practices
  - Responsible for all Hazardous Substances it brings onto the Premises
  - Responsible for its "Releases"
- **Other Typical Provisions**
  - Notice
  - Covenant of confidentiality/no public statements unless compelled by law.

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# Private Geothermal Leases – Typical Terms

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## Liens and Financing

- **No Liens**
  - Lessor and Lessee each make a covenant regarding keeping the other's property free and clear of liens arising as a result of actions or omissions.
  - Covenant to remove liens if created.
- **Exception**
  - Liens for financing purposes (collateral assignment).
  - Subordination of any lien rights Lessor has against Lessee to lenders.
- **Cooperation with Lender Requests:** Lessors covenant to cooperate with lenders' requests and to negotiate amendments to the lease reasonably requested by lenders.
- **Nondisturbance Agreements:**
  - Lessors covenant to assist Lessee in obtaining a subordination and/or nondisturbance and attornment agreement from each person that holds a lien that might interfere with Lessee's rights.
  - Provides that the lienholder shall not disturb Lessee's possession or rights under the Lease or terminate the Lease so long as Lessors are not entitled to terminate the lease.

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# Private Geothermal Leases – Typical Terms

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## Indemnification and Insurance

- **Indemnification**
  - Environmental
  - General
  - Process for Third Party Claims
  - Who is Indemnified? Directors, officers, employees, licensees, invitees, contractors, subcontractors, affiliates, etc.
  - In reality, the developer/Lessee may have difficulties “realizing” the value of indemnification if Lessors are average individuals.
- **Insurance**
  - Risk manager should always review language
  - Typical policies required of Lessee include, automobile, workers compensation, commercial general liability, etc.
  - Subrogation
  - Lessor should be an additional insured

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# Private Geothermal Leases – Typical Terms

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## Default and Remedies | Dispute Resolution

- **Default and Remedies**
  - What's Considered a "Default"?
  - Cure Periods?
  - What defaults should give rise to termination of the lease?
  - Right to continue operations/Duty to continue performing undisputed obligations
  
- **Dispute Resolution**
  - Conciliation
  - Mediation
  - Binding Arbitration
  - Litigation
  - Resolution by Expert?
  - Blend?

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# Private Geothermal Leases – Typical Terms

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## Recording and Estoppel Certificates

- **Memorandum of Lease:**
  - Include as an exhibit
  - Memorandum is placed of record, rather than the lease. Maintains confidentiality of most terms.
  - Focus on rights granted to Lessee (grant clause), ROFRs, priority rights (e.g., to water, sand, gravel, etc.)
- **Estoppel Certificates:**
  - Include provision giving the right to both parties to request estoppel certificates.
  - These certificates are written statements certifying information as accurate as of the date of the certificate.
  - Used to foreclose upon/defend against claims. Typical topics:
    - Lease remains unmodified
    - Lessee current on all payments (rent, royalties, etc.)
    - No breach of the Lease

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# Private Geothermal Leases – Typical Terms

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## Representations and Warranties; Implied Covenants

- **Representations:**
  - Due authority to sign lease
  - No abandoned wells or Hazardous Substances on the Premises (Lessor)
  - No litigation or proposed litigation/administrative actions that may affect performance
  - Entry of the Lease will not violate other contracts
- **Representation and Warranty of Good Title:**
  - Lessor should represent and warrant good title to the GR and that the Lease supersedes any prior leases to the GR and surface
  - **BUT YOU KNOW WHAT YOU HAVE TO DO AS A LESSEE, THAT'S RIGHT, CHECK THE TITLE RECORDS!**
  - Covenant to Defend Title
  - Who controls this litigation? Consent to settlements?
- **Disclaim Implied Warranties**

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# Private Geothermal Leases – Typical Terms

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## Assignment, Transfers and Division of Ownership

- **Assignment:**
  - Good to include a restriction on assignment without consent of the other party.
  - Just as important is when a party DOES NOT need consent of the other.
    - Financing/collateral assignment
    - Assignment to affiliate
    - Assignment to purchaser of the Lease/facilities
- **Division of Ownership:**
  - Notice of any division in the ownership of the Premises (e.g., by grant, testamentary transfer, transfer by descent, etc.).
  - Lessee not bound to pay rentals or royalties in a different manner without receiving a certified copy of the recorded instrument, letters of administration, or a final decree of distribution of an estate.
  - Establish the effective date of such division or change in ownership.
  - This helps keep the Lessee out of the Lessor's personal issues.

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# CONCLUSION

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1. Don't assume anything.
2. Understand the nature of the resource.
3. Utilize the *human resources* at BLM and state agencies.
4. The core asset in many development companies is the portfolio of leases. How well they are drafted, how reasonable they are, goes directly to the overall value of the portfolio!

## Andrew T. Braff

### Energy & Clean Technology, Project Finance, Government Initiatives



**CONTACT:**

701 Fifth Avenue  
Suite 5100  
Seattle, WA 98104  
Phone | 206-883-2567  
Fax | 206-883-2699  
abraff@wsgr.com

Andrew Braff is an associate in the Seattle office at Wilson Sonsini Goodrich & Rosati, where his practice focuses on renewable energy project development and finance in the biomass, biofuels, geothermal, wind, and solar industries. His experience includes advising on real estate sale and leasing transactions (including wind and geothermal leases), Federal and state legislative and regulatory process and government incentives (including the Title XVII and 9003 Loan Guarantee Programs) , as well as drafting and reviewing principle project-related documentation. Andrew also provides general corporate advice to start-up and early-stage companies seeking financing. Andrew previously served as an extern for Justice Mary E. Fairhurst of the Washington State Supreme Court and as director for policy and public affairs for California State Assemblyman, now State Senator, Mark Wyland. In addition, he was a legislative assistant to Congressman George R. Nethercutt, Jr. where he advised on numerous federal policy issues.

**EDUCATION:**

- J.D., University of Washington School of Law, 2006  
*External Affairs Editor, Shidler Journal for Law, Commerce & Technology; Berman Environmental Law Clinic*
- B.A., Whitman College, 2000  
*With Honors; Magna Cum Laude; Phi Beta Kappa; Recipient, Chester C. Maxey Politics Award*

**SELECT CLEAN TECHNOLOGY DEALS AND CLIENTS:**

- **Solyndra, Inc.:** Drafted and negotiated the principal project documents for the financing and construction of a \$733m solar panel manufacturing plant receiving the first DOE Loan Guarantee issued pursuant to the Energy Policy Act.
- **Oski Energy:** Drafted and advised on multiple geothermal leases, surface leases, coordination agreements for Oski Energy's acquisition of sites for potential geothermal energy project development in multiple western states, as well as unit agreements and joint development agreements.
- **Confidential:** Advised on a dispute regarding extensions of royalty amounts in a geothermal lease.
- **Confidential:** Drafted term sheet advised a developer of technology to extract minerals from geothermal brine.
- **Continental Energy:** Drafted and advised on a form of geothermal lease.
- **Algal Biomass Organization:** Serve as general counsel to this trade association, which promotes the development of viable commercial markets for the renewable and sustainable commodities derived from algae.
- **Algenic Biofuels, Inc.:** Provide strategic industry advice on the algae industry, assist with applications for grants (ARPA-E) and other public financial assistance, and advise on corporate formation and early-stage finance.
- **SunRun Generation:** Drafted commercial customer and EPC agreements for residential solar PV PPA projects.
- **Greenline Industries:** Assisted in corporate conversion and \$20 million Series A financing. *(cont'd)*

## Andrew T. Braff

### Energy & Clean Technology, Project Finance, Government Initiatives

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#### SELECT PUBLICATIONS AND SPEAKING ENGAGEMENTS:

- “Geothermal Leasing Essentials and the Anatomy of a Geothermal Lease,” Presentation at Geothermal Resource Council’s 33<sup>rd</sup> Annual Meeting, October 2, 2009, Reno, NV (in progress).
- “Geothermal Site Acquisition and Early Development: Key Legal Issues and Emerging Strategies,” Geothermal Energy 2008 Conference and Expo, Reno, Nevada, 2008 (Co-Author with Peter Mostow)
- [“Algae: The Next Biofuel? Recent Developments and the Financial Landscape,”](#) Presentation at the Renewable Energy Finance and Investment Summit, May 20, 2008, Scottsdale, AZ
- [“Biofuels from Algae,”](#) Testimony Before a Joint Session of the House Technology, Energy and Communications Committee and the Senate Water, Energy and Telecommunications Committee, February 21, 2008, Olympia, WA
- [“The Federal Renewable Fuel Standard \(“RFS”\) Program: Operational Highlights and Outlook,”](#) Presentation at 2007 Biofuels Workshop and Trade Show—Western Region, October 10, 2007, Portland, OR
- Co-Author with John F. Pierce and Steve Fisher, [“Prevailing Wage Requirement for Biofuel Incentives,”](#) *EnergyLaw 360 Guest Column*, July 16, 2008
- “RFS Rulemaking: EPA Proposes Implementation of Renewable Fuels Standard,” *Biofuels Journal*, 2006
- “The Spy Act: Ditching Damages as an Element of Liability for On-Line Conduct between Private Parties,” 2 *Shidler Journal of Law, Commerce & Technology* 17, 2006
- “Defining Spyware: Necessary or Dangerous,” 2 *Shidler Journal of Law, Commerce & Technology*, 2005
- Co-author with The Honorable Mary E. Fairhurst, “William O. Douglas: The Gadfly of Washington,” 40 *Gonzaga Law Review* 259, 2005

#### ASSOCIATIONS AND MEMBERSHIPS:

- General Counsel, Algal Biomass Organization
- Administrative Co-Chair, Pacific Northwest Clean Tech Open
- Member, Geothermal Energy Association
- Member, Energy Bar Association
- Member, Rocky Mountain Mineral Law Foundation
- Member, Washington State Bar Association

#### ADMISSIONS:

- State Bar of Washington



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