

# [***Note & Comment: The Modern Oil Shale Boom: An Opportunity for Thoughtful Mineral Development***](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:4X0N-C800-00CV-H00R-00000-00&context=1516831)

Winter, 2009

**Reporter**

20 COLO. J. INT'L ENVTL. L. & POL'Y 253 \*

**Length:** 19847 words

**Author:** Carrie Covington Doyle\*

\* J.D. Candidate, University of ***Colorado*** Law School 2009. MA in History, University of Utah, 2004; BA, Rice University, 1998. The author wishes to thank her parents for rooting her in the West and Ben for finding her there.

**Highlight**

Abstract

An oil shale boom has come again to the Piceance Basin of ***Colorado***, Wyoming, and Utah, and the intersection of demand for domestic oil and technological advancement seems likely to engender development. This Note suggests that this latest oil shale boom offers a unique opportunity in mineral development because the technological challenge of profitable extraction has made it the first valuable mineral to stave off a blind rush to extract and develop. By surveying the history of oil shale in the western United States, the implications of modern retort technologies, and the statutory and regulatory schemes in ***Colorado***, Utah, and Wyoming, this Note is intended to be a tool for state policymakers. By describing the current landscape and highlighting relevant lessons from previous mineral development, this Note points to the importance of a broad policy perspective. Most importantly, this Note attempts to show local communities and state legislatures significantly impacted by oil shale development that the legal landscape of this development is not yet settled and that there is an extensive toolkit of mineral law and policy precedent that merits their attention.

**Text**

**[\*254]**

[*I*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8T9R-T2X2-D6RV-H374-00000-00&context=1516831). Introduction

An oil shale boom is likely to occur within the next five to ten years, and its effects are likely to be far greater than those of previous booms, given the supply and demand realities of oil in the twenty-first century. This Note encapsulates the big picture of oil shale's history in the western United States, the implications of modern retort technologies, and the statutory and regulatory schemes in the states of ***Colorado***, Utah, and Wyoming. The oil shale boom offers a unique opportunity in mineral development because the technological challenge of profitable extraction has made it the first valuable mineral for which a blind rush to develop has been significantly delayed. The choice to take a comprehensive view of oil shale in this Note was a conscious one; hopefully, all of the involved decision makers will take an expansive view of the variety of mineral laws and lessons already on the books.

The technological challenge of extraction has given lawmakers a rare advantage. Decision makers can benefit from the calm before the storm and learn from 150 years of mineral precedent. They have the opportunity to construct a statutory and regulatory scheme that balances resource development with environmental and community protection commensurate with twenty-first century conservation values. This Note is intended to be a tool for state and federal lawmakers by describing the current landscape, highlighting relevant lessons from previous mineral development, and suggesting the importance of a broad policy perspective. Most importantly, this Note attempts to show local communities and state legislatures likely to be significantly impacted by oil shale development that the legal landscape of this development is unsettled but that there is an extensive toolkit of mineral law and policy precedent that merits their attention.

[*II*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8T9R-T352-D6RV-H379-00000-00&context=1516831). A Brief History of Oil Shale

A. The Fantastic Beginnings of a Classic Western Mineral

The country between the Green ***River*** and Upper ***Colorado*** ***River*** is generally dun-colored and covered in scrappy sagebrush. The landscape is often overlooked by the speeding motorists of I-70 or I-80 who doze at the wheel between the greenery of the Rocky and Wasatch Mountains and the vibrancy of Moab and Yellowstone. The rolls and roils of the Uinta, Green ***River***, Washakie, and Piceance Basins have scars from ***rivers*** and weather that leave sandy boulders halfway down plateau escarpments and occasional deserted creek beds entrenched in brittle soil. **[\*255]** It resembles a child's sandbox on an enormous scale, abandoned to the seasonal accumulation of loosely-hardened piles and washed-out rivulets. Perhaps it is this very aspect of the region that has captured imaginations and driven people to plow the resources into cartoonishly large trucks made just for this giant sandbox. Of course, this sandbox is also underlain by a wealth of mineral resources in varying geologies of accessibility. In addition to the recently-tapped fortunes of oil and gas, coal, and coalbed methane, one of the largest deposits of oil in the world - with a net reserve greater than that of Saudi Arabia's crude - is encased in shale, deep in the earth, below the sandbox. A child, faced with such a wonderful and rich sandbox might well wonder, "Why not dig it up?"

Although oil shale is 40-60 million years old, [[1]](#footnote-2)1 its western American story begins in the 1880s. By the late 1800s, mining had taken root in Utah, Wyoming, and ***Colorado***, but oil shale was one of the few minerals too complicated, or unprofitable, to pursue. The historical backgrounds of each of these states are important because they provide background about the failure to develop oil shale in the late nineteenth century and identify the distinct state cultures that continue to influence mining policy.

The first Mormon pioneers entered the Salt Lake Valley in 1847 and by the 1880s, their efficient agricultural communities had expanded methodically along the watersheds to the fertile valleys of the Utah Territory. [[2]](#footnote-3)2 The rural farming communities of western Utah prospered even though statehood was delayed, primarily for ideological reasons, until 1896. [[3]](#footnote-4)3 Additionally, the communities were sporadically caught up in warring with their Ute and neighbors and federal troops. [[4]](#footnote-5)4

Wyoming was far less populated than ***Colorado*** and Utah in the 1880s and already exhibited distinct cultural regions. The northwest was **[\*256]** marked for tourism by 1872, with the establishment of Yellowstone National Park. [[5]](#footnote-6)5 The east, with its proximity to the Black Hills, was still firmly Indian country, even if that area had become a landscape of military posts, war, and tragedy. [[6]](#footnote-7)6 The southern intercontinental railroad corridor was both beneficiary and victim of wild western industrial commerce. [[7]](#footnote-8)7

By the 1880s, ***Colorado*** was blooming in regions beyond the burning buds of the earliest mining camps and their attendant foothill booster-and-supply camps. [[8]](#footnote-9)8 Although Hayden's Survey in the 1870s strongly suggested that bounty was not to be had in the "desert covered with a sparse growth of stunted sagebrush, which grows in a stiff alkaline soil," [[9]](#footnote-10)9 it was not the aridity that the settlers saw. Rather, they saw the opportunity to acquire free land through the Homestead Act of 1862, free water thanks to prior appropriation, and - most of all, in a region that only an irrigator's mother could love - free minerals as a result of the General Mining Law of 1872. [[10]](#footnote-11)10 Hayden spoke of "croppings of Cretaceous shales" in the land around the Grand ***River*** (now known as the ***Colorado*** ***River***), and ***Colorado***'s soils proved to be most valuable for the minerals they contained. [[11]](#footnote-12)11 The regional rushes for gold, silver, and coal began in 1858, 1878, and the 1880s, respectively. [[12]](#footnote-13)12 By the end of the century, the federal government had cleared the way for white settlement by removing some of the Ute Tribes to a reservation in eastern Utah and foisting allotment upon most of the others. [[13]](#footnote-14)13

**[\*257]** The first settlers of western ***Colorado*** were a western hodge-podge. Men who had accumulated just enough knowledge and capital in Leadville were joined by those who had struck out or arrived too late. Immigrants found their way to newborn towns like Carbonate, Silt, Rifle, and Parachute through chance and kinship. No doubt a weary outlaw gave up the chase on his way to Monument Valley, or a lonely cowboy saw how the railroad would end the need to drive cattle, allowing the possibility of a permanent home. Into this mix fell a man named Mike Callahan. He was one of the first settlers in Parachute, ***Colorado*** and would become one of the town's earliest legends. [[14]](#footnote-15)14 After arriving in Parachute, he built a log cabin, complete with a carefully crafted fireplace of beautifully dark, oddly glossy, local stone. [[15]](#footnote-16)15 Upon building a fire, however, the whole fireplace - and thus, the entire cabin - went up in flames. [[16]](#footnote-17)16 And so Mike Callahan was the first, but certainly not the last, Western Slope local to get burned by oil shale.

The story of oil shale has all the makings of a great western epic. It begins with the myth of Mike Callahan. [[17]](#footnote-18)17 It is about a wild mineral that will not be tamed and bucks definition. It contains all of the hope and heartbreak of communities that must wrench their living from the land. And it has followed the ebbs and flows of western American history to arrive, unexpectedly, at one of the natural resource crossroads of the twenty-first century. Oil shale pits the high-noon hawk's cries of landscape conservation and community preservation against the dust-settled gunslingers' air of the heightened demand for oil.

B. Defining a Rock that Turns to Oil (Boom to Boom: 1916-1980s)

Oil shale is a dark-brown rock. [[18]](#footnote-19)18 To the touch, a piece of oil shale would feel heavier and smoother than sandstone, lighter and less coarse **[\*258]** than granite, and, somehow, juicier than both. Yes, as it turns out, rocks can be juicy - or at least have a liquid content that can be extracted at extremely high temperatures [[19]](#footnote-20)19 - and it is this quality that makes oil shale's history and current vogue especially juicy. This juiciness can be attributed to kerogen, which is the organic matter that becomes oil and gas after being subjected to millions of years of geological time, temperatures, and pressures. [[20]](#footnote-21)20 Developing oil shale involves simulating these complicated geological processes in order to speed up the conversion of kerogen. [[21]](#footnote-22)21 This process of turning rock into oil is called "pyrolysis." [[22]](#footnote-23)22 There are different pyrolysis techniques, but they all require heating the oil shale to temperatures of about 700 degrees Fahrenheit for extended periods of time, resulting in the creation of oil and byproducts, like spent shale. [[23]](#footnote-24)23

Many Garfield County, ***Colorado*** settlers toyed with the idea of burning oil out of rock, as evidenced by the establishment of the Parachute Mining District in 1890. [[24]](#footnote-25)24 The technological developments necessary for their success, however, would have required both national support and significant capital, neither of which they had. [[25]](#footnote-26)25 It was not until 1897 that Congress clarified that the General Mining Law governed oil and gas and, in so doing, declared that public lands containing petroleum resources were "free and open to occupation, exploration, and purchase by citizens." [[26]](#footnote-27)26

By the early twentieth century, however, World War I and the increased use of automobiles led to exponential growth in demand for oil, and the federal government recognized a need to reserve and control this crucial resource. [[27]](#footnote-28)27 Thus, President Taft included 3,041,000 acres in California and Wyoming in Temporary Petroleum Withdrawal No. 5 on September 27, 1909, after the Secretary of the Interior alerted him that "the government [would] be obliged to repurchase the very oil that it has **[\*259]** practically given away." [[28]](#footnote-29)28 In the landmark judicial decision of Midwest Oil in 1915, the Supreme Court demonstrated the importance petroleum had taken on in just over a decade. [[29]](#footnote-30)29 The Supreme Court pointed to 252 prior executive orders withdrawing land to which Congress had implicitly acquiesced and held that even though there was a lack of similar precedent for mineral withdrawals, the "government is a practical affair, intended for practical men." [[30]](#footnote-31)30 In practical terms, the mineral land withdrawals and the Midwest Oil decision held the rampant mineral grab at bay until Congress could act. [[31]](#footnote-32)31

Congress would act comprehensively with regard to all petroleum resources in the Mineral Leasing Act of 1920, but oil shale became a top priority earlier - just one year after Midwest Oil. [[32]](#footnote-33)32 The imminence of war and the vast projections of oil shale availability in western ***Colorado*** and eastern Utah contained in two United States Geological Survey ("USGS") reports led President Wilson to create the Naval Oil Shale Reserves ("NOSRs") on December 16, 1916. [[33]](#footnote-34)33 The 45-acre Anvil Points site near Rifle, ***Colorado*** functioned as the primary oil shale research and development facility from 1920 to 1982, while the 87-acre site in eastern Utah remained in reserve. [[34]](#footnote-35)34 The size of these sites, however, seems insignificant in comparison to the large acreages mentioned in the current discussions of oil shale development. [[35]](#footnote-36)35 Although the NOSRs effectively kept the oil shale research process alive during the middle decades of the twentieth century, the federal effort was minor, and private industry was prohibited from participating in the reserve's experimental extraction. [[36]](#footnote-37)36 **[\*260]** The NOSRs were transferred to the Department of Energy in 1977 and Anvil Points was decommissioned in 1987. [[37]](#footnote-38)37

Congress's recognition of the importance of minerals to the nation's interests was further demonstrated in the Stock-Raising Homestead Act of 1916, which provided for the granting of surface land patents that reserved all subsurface minerals to the United States. [[38]](#footnote-39)38 Congress also exerted federal control over non-hard rock mineral development on federal lands when it set out specific terms for the leasing of oil, gas, coal, and oil shale in the Mineral Leasing Act of 1920. [[39]](#footnote-40)39 The terms set out for oil shale gave the Secretary of the Interior broad discretionary authority. For example, leases could be "for indeterminate periods," royalties were not set and could be waived "during the first five years of the lease," and, although no person or entity could have more than one lease, the maximum lease size was 5,120 acres. [[40]](#footnote-41)40

Throughout the rest of the twentieth century, the oil shale industry in ***Colorado*** would suffer the boom-bust fate of mineral-dependent communities. The first oil shale boom in western ***Colorado*** proceeded throughout World War I against a federal background that both promoted and corralled petroleum development. [[41]](#footnote-42)41 Individual prospectors, joint-stock companies, and established oil companies tried valiantly to extract significant oil from shale, but all found themselves unprepared to meet its technological demands, producing only 500 barrels of oil by 1920. [[42]](#footnote-43)42 Although the technological aspirations of oil shale developers may have been endless, the discovery of crude oil in east Texas in 1930 quickly ended any hope of obtaining the financial resources needed to support efforts in ***Colorado***. [[43]](#footnote-44)43 Garfield County consequently settled into a "bust period" until the price of oil would rise again to a level where there was sufficient financial support to meet technological needs. [[44]](#footnote-45)44 The second boom arrived in the wake of the 1973 Arab oil embargo, but primarily **[\*261]** focused on the untapped reserves of oil in Alaska, Mexico, and the North Sea rather than addressing the technological hurdles of oil shale. [[45]](#footnote-46)45

The third boom began when President Carter signed the Energy Security Act on June 30, 1980, demonstrating his support for Congress' mandate to develop previously untapped domestic sources of oil. [[46]](#footnote-47)46 Companies had slowly begun to buy up oil shale leases in the 1970s, establishing the infrastructure for the third boom by 1980. [[47]](#footnote-48)47 The boom began in earnest with Exxon's 1980 white paper on "The Role of Synthetic Fuels in the United States Energy Future." [[48]](#footnote-49)48 The white paper announced Exxon's projections for oil shale development in the region. The scale of the proposed development was truly incredible. It included 150 plants, six strip mines, tens of thousands of workers, and suggested meeting the need for 3.6 barrels of water for every barrel of oil produced by siphoning water from South Dakota's Oahe Reservoir. [[49]](#footnote-50)49 The boom was centered around Exxon's faith in the project, and thus when Exxon shut down its Colony project on "Black Sunday," May 2, 1982, the [*second*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8T9R-T352-D6RV-H379-00000-00&context=1516831) bust set in. [[50]](#footnote-51)50 Even the Reagan administration's efforts to privatize hundreds of thousands of acres of public lands containing oil shale could not revive the industry. [[51]](#footnote-52)51

[*III*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8T9R-T372-8T6X-731R-00000-00&context=1516831). The Modern Boom and the Current Legislative Scheme

Oil shale is a geologic phenomenon not limited to the American West. [[52]](#footnote-53)52 Most agree, however, that the Green ***River*** Formation, located at **[\*262]** the intersection of Utah, Wyoming, and ***Colorado***, is one of the world's largest deposits and may contain anywhere from 800 billion to 1.8 trillion barrels of oil resources. [[53]](#footnote-54)53 Although there is some private ownership of oil shale lands, at least 70% of the Green ***River*** deposit is located beneath federal land. [[54]](#footnote-55)54 The 8.7 million acres of predominately public land that may contain oil shale deposits fall under the regulatory authority of the Bureau of Land Management ("BLM"), which is responsible for ensuring compliance with the National Environmental Policy Act ("NEPA") through the development of a Programmatic Environmental Impact Statement ("PEIS"). [[55]](#footnote-56)55

The Green ***River*** Formation, known to the BLM as the Oil Shale and Tar Sands ("OSTS") development area, is extensive. Its four main geologic basins - the Piceance, Washakie, Green ***River***, and Uinta - constitute over 8.5 million acres of the Upper ***Colorado*** Plateau. [[56]](#footnote-57)56 Although the region is sparsely populated, it is home to 200,000 residents [[57]](#footnote-58)57 and counting, thanks to the recent oil and gas boom. [[58]](#footnote-59)58 Furthermore, ***Colorado***, Wyoming, and Utah face difficult decisions **[\*263]** considering the interests involved. The significant royalty payments and economic development need to be weighed against transforming the landscape into a sacrificial mining zone.

The Energy Policy Act of 2005 called for completion of the NEPA process within a markedly ambitious eighteen-month period. [[59]](#footnote-60)59 The BLM finally released the final PEIS ("FPEIS") thirty-seven months later, in September of 2008. [[60]](#footnote-61)60 The disconnect between the Energy Policy Act of 2005's blind optimism and the delayed reality of the PEIS process represents the hope, confusion, and challenge involved in the United States' efforts to develop oil shale. An analysis of modern oil shale retort technologies, the BLM's regulatory approach, and the statutory scheme that will undergird regulation of the resource is necessary to understand today's oil shale boom.

A. Oil Shale Technologies Today [[61]](#footnote-62)61

There are two primary methods being developed to extract oil from shale: surface retort and in-situ underground retort. [[62]](#footnote-63)62 The first method, surface retort, is the older process of mining the shale out of the earth and then extracting the oil from the shale. [[63]](#footnote-64)63 The mined rock is taken to a separate location and heated in a surface retort facility to distill the oil. [[64]](#footnote-65)64 The two main components of a surface retort operation are the mining operation, which can be either an underground or a surface mine, and a retort facility that can heat the shale to approximately 1,000 degrees **[\*264]** Fahrenheit. [[65]](#footnote-66)65 It is also important to note that oil extracted through the surface retort process is not stable and must be further upgraded before it can be sent to a refinery. [[66]](#footnote-67)66 Today, the surface retort method is less favored than the in-situ method, [[67]](#footnote-68)67 perhaps because the two-step process, of mining then retorting, is cumbersome. [[68]](#footnote-69)68

The second method, in-situ retort, is the process of using heat to extract oil from the shale while leaving the rock in place. [[69]](#footnote-70)69 Most companies prefer this method because it allows them to avoid the additional costs of extracting the shale from the ground, transporting it to a retorting facility, and dealing with massive quantities of overburden and spent shale. [[70]](#footnote-71)70 During the in-situ process, the oil shale is heated in place for at least two years at approximately 700 degrees Fahrenheit using underground heating mechanisms. The entire system is contained by freeze walls - wells placed around the perimeter of the in-situ area that are thought to prevent the escape of oil and gas and intrusion of groundwater by circulating refrigerated fluid. [[71]](#footnote-72)71 The retort process releases about two-thirds of the encased kerogen as oil and the other third as gas, which has implications for extraction and the underground movement of the resource. [[72]](#footnote-73)72

The greatest problem in determining the potential environmental impact of oil shale development is the unpredictability of technologies that are theoretical and have not been tested on a large scale. [[73]](#footnote-74)73 For example, Shell withdrew its Plan of Operations in the summer of 2007 because its freeze wall technology was still too far from practical application. [[74]](#footnote-75)74 Given that the in-situ process proposes heating large swathes of the earth to 700(0) Fahrenheit for a period of years, if not **[\*265]** decades, it is impossible to know what the impact may be on arid soil, fragile plant life, and delicate wildlife communities. Some scientists admit that the process of extracting oil from shale may have significant environmental impacts, including greenhouse gas emissions, reduced water quality and availability, and other surface impacts. [[75]](#footnote-76)75 What will happen on the surface as a result of the in-situ process, and what impacts steam and other gaseous chemicals could have on surface and sub-surface ecosystems is unknown.

An additional concern is that research has demonstrated that oil shale's physical structure changes when it is heated within a confined or compressed location. [[76]](#footnote-77)76 During the extraction process, oil shale's porosity and permeability are altered. [[77]](#footnote-78)77 These alterations have been recorded at the microscopic level on core samples, but it is uncertain what these properties will mean when large deposits of oil shale are heated. [[78]](#footnote-79)78 Once the core samples expand, they cannot be reduced to their original size. [[79]](#footnote-80)79 Increased porosity has necessary implications for how gases, liquid chemicals, and water will travel through the deposits. [[80]](#footnote-81)80 Further, the heating and extraction process may cause unpredictable fracturing. [[81]](#footnote-82)81

B. The Energy Policy Act of 2005

The Energy Policy Act was enacted on August 8, 2005, in response to domestic pressures for improved energy availability and transmission to reduce the United States' growing dependence on foreign oil. [[82]](#footnote-83)82 Though there had been prior discussions and peripheral research, the **[\*266]** passage of the Act likely spawned the onset of the third oil shale boom. [[83]](#footnote-84)83 The RAND Report on Oil Shale, requested by Congress in 2004 and sponsored by the National Energy Technology Laboratory, [[84]](#footnote-85)84 was unveiled just before the Energy Policy Act in 2005.

1. Section 369: Oil Shale, Tar Sands and Other Strategic Unconventional Fuels Act

The Energy Policy Act of 2005 removed any uncertainty regarding the federal government's interest in developing extensive oil shale deposits. Section 369, which is also known as the Oil Shale, Tar Sands and Other Strategic Unconventional Fuels Act, [[85]](#footnote-86)85 resulted from oversight hearings in both houses of Congress that took place in 2005. [[86]](#footnote-87)86 Interestingly, although most of the witnesses at these hearings were from the oil industry, and only a few voices championed restraint and sustainable practices, [[87]](#footnote-88)87 the language of the statute carves out important protections for state, local, and environmental interests. [[88]](#footnote-89)88 The purpose of Section 369 is to develop oil shale resources, and it is clear that the federal government is interested in working with and supporting the industry in order to accelerate development. [[89]](#footnote-90)89 Many of the provisions delegate broad discretionary power to the Secretary of the Interior acting through the BLM. [[90]](#footnote-91)90 However, the Energy Policy Act of 2005 could not escape the markings of a modern environmental statute as demonstrated by its reflection of the commonly-held twenty-first century value of sustainable development. [[91]](#footnote-92)91

**[\*267]** Section 369(b) of the Energy Policy Act of 2005 states the three primary goals of OSTS development: (1) reduction of U.S. dependence on foreign oil; (2) environmental soundness and minimization of impacts; and (3) sustainability with regard to affected states and communities. [[92]](#footnote-93)92 Thus, two of the three goals of oil shale resource management pertain to sustainability. Congress also clarified its intention to work closely with local and state interests. This may have been in response to the growing awareness of how mining booms have historically strained local communities.

Section 369(e) mandates that not later than 180 days after publication of the final regulation:

the [Interior] Secretary shall consult with the Governors of States with significant oil shale and tar sands resources on public lands, representatives of local governments in such States, interested Indian tribes, and other interested persons, to determine the level of support and interest in the States in the development of tar sands and oil shale resources. [[93]](#footnote-94)93

Section 369(h) further enhances public, local, and state participation by including governors, local governments, and tribal representatives on the Oil Shale Task Force. [[94]](#footnote-95)94 Congress's interest in including all relevant stakeholders is underscored by Section 369(k)(1)'s authorization of a comprehensive NEPA analysis that designates the BLM as the coordinating agency. [[95]](#footnote-96)95 This provision is also important because it authorizes the Secretary to "coordinate this Federal authorization and review process with any Indian tribes and State and local agencies responsible for conducting any separate permitting and environmental reviews." [[96]](#footnote-97)96 This provision could allow the federal government to usurp state, local, and tribal interests. On the other hand, if these stakeholders engage in the process from the beginning and ensure that they have their own regulatory schemes, it could lead to the enforcement of local and state permitting regulations. States and local communities should recognize that Congress carved out a crucial role for them in the management of their oil shale resources.

Of course, the oil shale provision of the Energy Policy Act of 2005 gives the Secretary of the Interior a significant amount of discretionary **[\*268]** authority. The Secretary is directed to promote resource development through aid and encouragement to companies. [[97]](#footnote-98)97 As the sole agency governing the United States' oil shale development efforts, the BLM has discretionary power unsusceptible to a check by another agency or force. [[98]](#footnote-99)98 Additionally, the land set aside for the research, development, and design ("RD&D") leases falls under the Secretary's authority, as do Environmental Assessments ("EAs") and Findings of No Significant Impact ("FONSIs"). [[99]](#footnote-100)99 Section 369 also assigns the Secretary the duty to "establish royalties, fees, rentals, bonus, or other payments for leases." [[100]](#footnote-101)100

In addition to the Secretary's authority to assist private companies' efforts to develop commercial oil shale operations, the statute mandates that the Office of Petroleum Reserves of the Department of Energy shall "coordinate and facilitate appropriate relationships between private industry and the Federal Government to promote sufficient and timely private investment to commercialize strategic fuels for domestic and military use." [[101]](#footnote-102)101 Section 369 also provides that the Secretary of Energy may "provide technical assistance; assistance in meeting environmental and regulatory requirements; and cost-sharing assistance" [[102]](#footnote-103)102 to **[\*269]** companies that have produced identifiable oil shale technologies that "are ready for demonstration at a commercially-representative scale; and have a high probability of leading to commercial production." [[103]](#footnote-104)103

Although the Energy Policy Act of 2005 carved out important protections for local communities, tribes, affected states, and the environment, it will be interesting to see if those stakeholders remain engaged throughout the process in the face of certain provisions that clearly favor and subsidize the industry.

2. Section 365: Pilot Project Field Offices

Section 365 of the Energy Policy Act of 2005 establishes that certain BLM field offices will be designated for a pilot program to coordinate all oil and gas permitting. [[104]](#footnote-105)104 Section 365 also authorizes increased personnel to assist with "inspection and enforcement relating to energy development on Federal land, in accordance with the multiple use mandate of the Federal Land Policy and Management Act of 1976" ("FLPMA"). [[105]](#footnote-106)105 Three of the eight BLM offices that will benefit from this increased funding are the Rawlins, Wyoming; Grand Junction/Glenwood Springs, ***Colorado***; and Vernal, Utah field offices. [[106]](#footnote-107)106 These field offices will have an important role in administering the BLM's oil shale leasing program. Hopefully, they will gain valuable experience, knowledge, and efficiency from their increased manpower and the streamlining of their oil and gas permitting processes. When this section is read together with Section 369(k), which calls for interagency coordination, [[107]](#footnote-108)107 the Energy Policy Act of 2005 may enable a more progressive, organized, and cooperative approach to mineral management.

C. The BLM's Oil Shale and Tar Sands Programmatic Environmental Impact Statement

In September of 2008, the BLM released the FPEIS for 2.3 million acres of public lands in the Green ***River*** Formation. [[108]](#footnote-109)108 The FPEIS proposes to make 1,991,222 acres available for commercial oil shale **[\*270]** leasing and 431,224 acres available for commercial tar sands leasing. [[109]](#footnote-110)109 The FPEIS also calls for the amendment of twelve existing Resource Management Plans ("RMPs"). [[110]](#footnote-111)110 Once the RMPs are amended, they would "open the areas in question for leasing." [[111]](#footnote-112)111 Importantly, the FPEIS states:

The phrase "available for application for leasing" is used … throughout the PEIS, rather than simply "available for leasing" to highlight that, unlike the BLM's practice with respect to oil and gas leasing, additional NEPA analysis would be required prior to the issuance of any lease of oil shale or tar sands resources. [[112]](#footnote-113)112

The BLM explains that a second NEPA analysis will be necessary at the RMP level because "sufficient information on the nature of the effects … was known, but not the extent of the effect." [[113]](#footnote-114)113 In other words, the BLM had to build in a second NEPA step in order to meet the "hard look" threshold because, although comparable data and BLM's "experience with surface-disturbing activities" might suggest certain kinds of environmental impacts, the extent of the impacts specific to oil shale development remain unknown. [[114]](#footnote-115)114

The Energy Policy Act of 2005 called for a rapid NEPA analysis in order to expedite commercial development of oil shale. [[115]](#footnote-116)115 Although the PEIS was supposed to be completed by February of 2006, [[116]](#footnote-117)116 the Draft EIS was not released until December of 2007. [[117]](#footnote-118)117 The BLM received 105,000 public comments on the Draft EIS and released the FPEIS nine months later. [[118]](#footnote-119)118 The FPEIS evaluated three proposed alternatives: the no alternative "A," the alternative with the most proposed development "B," and the alternative allowing development but with more protections for **[\*271]** special lands "C." Ultimately, it adopted "B" as the preferred alternative - the alternative with little change from the Draft PEIS. [[119]](#footnote-120)119

The Energy Policy Act of 2005 also authorized the Secretary of the Interior to publish final regulations governing commercial oil shale leasing within six months of the FPEIS release. [[120]](#footnote-121)120 The BLM published the proposed regulations in the Federal Register on July 22, 2008, laying the groundwork for commercial oil shale. [[121]](#footnote-122)121 By October of 2008, the BLM had received 70,000 public comments on the draft regulations. [[122]](#footnote-123)122 However, the BLM's rush to release the final regulations may have been caused by more than the six month deadline in the Energy Policy Act of 2005. An appropriations block that prevented the federal government from spending any money on a commercial leasing infrastructure for one year expired on September 30, 2008. [[123]](#footnote-124)123

The thrust of the FPEIS is that leasing decisions will be left to local BLM field offices. [[124]](#footnote-125)124 The scope of the FPEIS comports with recent public land law precedent that sets the crucial decision point at the drilling stage, rather than at the leasing or programmatic plan stage. [[125]](#footnote-126)125 Unfortunately, the result is that the BLM's concerted efforts to catalogue the resources and identify the possible environmental impacts of developing oil shale resulted in a very long but imprecise list. [[126]](#footnote-127)126 The **[\*272]** length of the OSTS FPEIS, together with its litany of potential impacts, [[127]](#footnote-128)127 raises questions about how successful it will be in guiding the local field offices to make decisions about leasing and development. Consequently, states and local communities should stay vigilant in encouraging their local BLM office to be thorough in evaluating the environmental impacts of individual oil shale leases.

D. The Mineral Leasing Act

The Energy Policy Act of 2005's oil shale provision was meant to restart the technological development of retort methods in earnest and formally express the federal government's interest in exploring the potential of this resource. The nuts and bolts of oil shale leasing, permitting, and development, however, are contained within the Mineral Leasing Act ("MLA"). [[128]](#footnote-129)128

The broad discretionary power of the Secretary of the Interior in the realm of oil shale development has its origins in the MLA. The Secretary can lease to any qualified person or corporation "any deposits of oil shale … and the surface of so much of the public lands containing such deposits, or land adjacent thereto, as may be required for the extraction and reduction of the leased minerals … as he may prescribe." [[129]](#footnote-130)129 Additionally, "leases may be for indeterminate periods, upon such conditions as may be imposed by the Secretary, including covenants relative to methods of mining, prevention of waste, and productive development." [[130]](#footnote-131)130 Royalties for oil shale have not yet been set; however, the annual rental rate is $ 2 per acre. After the royalties are set, they will be subject to readjustment only after twenty years. [[131]](#footnote-132)131 The Secretary maintains the discretion to waive royalty payment and rental fees for up to the first five years of a lease. [[132]](#footnote-133)132

The only concrete limits to oil shale leases contained in the MLA relate to size restrictions. A lease cannot exceed 5,760 acres, and the lease holdings of any one person, association, or corporation are capped at 50,000 acres in each state. [[133]](#footnote-134)133 Although in-situ technology may demand massive quantities of land, these generous limits are hardly restrictive.

**[\*273]** If hard rock mining's controversial history of mill sites is any indication, the MLA's provisions for offsite oil shale leases [[134]](#footnote-135)134 could expand and complicate oil shale's impacts. Offsite leases, which the Secretary has the authority to grant, are defined as "additional lands necessary for the disposal of oil shale wastes and the materials removed from mined lands, and for the building of plants, reduction works, and other facilities connected with oil shale operations." [[135]](#footnote-136)135 The provision allows oil shale developers on private lands to apply for an offsite lease of up to 320 acres. [[136]](#footnote-137)136 The Secretary's discretion is also evident under the offsite leasing system.

An offsite lease shall be for such periods of time and shall include such lands, subject to the acreage limitations contained in this subsection, as the Secretary determines to be necessary … and shall contain such provisions as he determines are needed for protection of environmental and other resource values. [[137]](#footnote-138)137

Moreover, the Secretary is directed to set the annual rental at a price which "reflects the fair market value." [[138]](#footnote-139)138 Nevertheless, the Secretary is required to consider "the need for such lands, impacts on the environment and other resource values, and upon a determination that the public interest will be served thereby." [[139]](#footnote-140)139

The MLA provides that the Secretary "shall" consult with affected state, local, and tribal officials, but that he "may" still issue the offsite lease if he has considered the extent to which it is needed, environmental impacts, socioeconomic impacts, and information provided in the consultation process. [[140]](#footnote-141)140 Despite this non-binding consultation with local leaders, the statutory language provides governors with significant authority in recommending "whether or not to lease such lands, what alternative actions are available, and what special conditions could be added to the proposed lease to mitigate impacts." [[141]](#footnote-142)141 Perhaps in including this provision, Congress was thinking of state officials who had to deal with the adverse ramifications of earlier oil shale booms. The language, however, does not answer whether states will indeed be heard, instead providing that "The Secretary shall accept the recommendations of the **[\*274]** Governor if he determines that they provide for a reasonable balance between the national interest and the State's interests." [[142]](#footnote-143)142

E. State and Tribal Statutory Schemes and Water Law Implications

State legislative efforts, the potential for tribal jurisdiction, and water law complete the description of the statutory regime that could affect oil shale development and demonstrate regulatory channels already available to local communities. The active participation by local communities is particularly important, given the attention that is paid to state and local governments in the Energy Policy Act of 2005's oil shale provisions and because the most significant effects of this new kind of mineral development will be felt by neighboring towns.

This Part first examines states' efforts to legislate oil shale development. It then explains why water law will provide insufficient protections against unchecked oil shale development, despite the massive quantities of water that large-scale oil shale mining operations will require. Finally, it briefly explores the unique legal situation that tribes occupy. In particular, the Ute tribe, which owns a significant portion of the land over Utah's oil shale deposit, is discussed. State and tribal legislation may be the best option for states and local communities to gain control over oil shale development.

1. Wyoming: A Blank Slate

Wyoming's statutes say very little about oil shale. The state Constitution mentions it only once - by allocating the distribution of bonus payments for oil shale. [[143]](#footnote-144)143 Wyoming's statutes authorize a severance tax for oil shale, [[144]](#footnote-145)144 but the percentage has not been set. The general provisions for Wyoming's environmental quality are defined under Wyoming Revised Statutes § 35-11-103, and although oil shale is mentioned, no special provisions about the process have been enacted. The Wyoming Oil and Gas Conservation Commission regulates the state's booming oil and gas industry. [[145]](#footnote-146)145 If the Commission's website is any indication, it seeks to encourage the state's continued development **[\*275]** of mineral resources. [[146]](#footnote-147)146 It is worth noting that Wyoming made its first move to protect surface owners affected by oil and gas development by passing a bill that gives them leverage in protecting their land and collecting damages from mineral lessee companies. [[147]](#footnote-148)147 Although it is an important first step, the bill offers limited protection for split estate owners and is unlikely to protect neighboring owners impacted by mineral development or other property owners who border federal lands leased to oil shale developers.

2. Utah: State Promotion of Oil Shale Development

Where Wyoming's slate is blank, Utah is the rare state that has enacted specific legislation to promote oil shale development. It has issued one RD&D lease at the White ***River*** Mine. [[148]](#footnote-149)148 Governor Huntsman has created a "stakeholder-based advisory panel" that meets every other month and is charged with "making recommendations for moving forward with the utilization of this unique and abundant resource." [[149]](#footnote-150)149 Additionally, his office's Energy Advisor now ***co***-chairs the Unconventional Fuels Task Force. [[150]](#footnote-151)150 The National Energy Technology Laboratory selected the University of Utah as the site for the Utah Heavy Oil Program, which has three goals of updating the 1987 heavy oils report, making the report available in an online database, and conducting research. [[151]](#footnote-152)151

**[\*276]** In 2006, Utah's legislature added a provision to the Mineral Severance Tax exempting oil shale until 2016. [[152]](#footnote-153)152 The 2006 legislature also granted tax-exempt status to property purchased in relation to oil shale research and development. [[153]](#footnote-154)153 In February of the same year, the legislature passed natural resource legislation with a provision conferring tax-exempt status on Millennium Synfuels Corporation, in order to aid the corporation in its oil shale development. [[154]](#footnote-155)154 Furthermore, Utah clearly intends to rigorously develop its minerals as evidenced by its 2006 state energy policy. [[155]](#footnote-156)155

3. ***Colorado***: "Go Slow?"

Perhaps as a result of being home to the previous oil shale booms, ***Colorado*** is the state with the most legislation in place to protect against unchecked mineral development. As early as 1974, ***Colorado*** passed legislation creating a special fund for the distribution of earnings from oil shale sales, bonuses, royalties, leases, and rentals "to state agencies, school districts, and political subdivisions of the state affected by the development." [[156]](#footnote-157)156 ***Colorado***'s oil shale severance tax is currently fixed at 4%. [[157]](#footnote-158)157 Governor Bill Ritter has advocated for a "thoughtful, responsible and measured" approach to oil shale development, recognizing the need to protect the neighboring Roan Plateau, as well as the already booming mineral economies of the towns of Rifle and Parachute. [[158]](#footnote-159)158 Mr. Ritter also substantively restructured the ***Colorado*** Oil and Gas Conservation Commission ("COGCC") in 2007. [[159]](#footnote-160)159 Another relevant statute is the recently adopted ***Colorado*** Habitat Stewardship Act, which provides:

**[\*277]**

It is declared to be in the public interest to: Plan and manage oil and gas operations in a manner that balances development with wildlife conservation in recognition of the state's obligation to protect wildlife resources and the hunting, fishing, and recreation traditions they support, which are an important part of ***Colorado***'s economy and culture. [[160]](#footnote-161)160

On December 11, 2008, [[161]](#footnote-162)161 the COGCC completed an intensive rulemaking process in an effort to afford greater protections for wildlife, human health, and human welfare. [[162]](#footnote-163)162 The comprehensive nature of the rulemaking process and the interest with which the stakeholders participated - over 2,000 public comments were received, and 250 people attended statewide hearings on the proposed rules - demonstrate that ***Colorado*** is poised as a leader in the regulation of mineral resources. [[163]](#footnote-164)163

**[\*278]**

4. The Insufficiency of State Water Law

A brief survey of the three affected states' water law regimes further demonstrates that their substantive participation in regulation of oil shale development will likely come from legislative enactments. Water law has proven to be an ineffective tool in defending against unchecked oil shale development even though in-situ oil shale operations require enormous quantities of water in arid states with little water to spare. [[164]](#footnote-165)164 The ***Colorado*** Constitution proclaims that unappropriated waters shall be appropriated to anyone wanting to put them to beneficial use. [[165]](#footnote-166)165 The Constitution does not contain a provision expressly protecting the public trust, and thus any water law-based challenges to oil shale development must allege that the use of the water for oil shale is not beneficial. [[166]](#footnote-167)166 Other possible legal hooks have proven equally unsuccessful. Forfeiture and abandonment are rendered fairly obsolete because there is a presumption against these legal findings in prior-appropriation states. [[167]](#footnote-168)167 ***Colorado*** has carved out a diligence exception for oil shale operations. [[168]](#footnote-169)168 The waters of the ***Colorado*** ***River*** are notoriously contested and their allocation is governed by a complex body of law. [[169]](#footnote-170)169 Oil shale will only add to these allocation and scarcity problems. [[170]](#footnote-171)170

In this way, ***Colorado*** has nearly foreclosed any substantive protection of the public interest, and a legislative solution may be necessary. [[171]](#footnote-172)171 Unlike ***Colorado***, the state of California has taken a more progressive judicial direction by applying the public trust doctrine to its water resources. [[172]](#footnote-173)172 Public trust aside, these state legislatures cannot deny their responsibility in protecting the public interest in water. Despite the problems of water quantity and quality posed by massive oil shale **[\*279]** operations, the statutory landscape seems vague and barren in a stereotypically western way. The final section of the Energy Policy Act of 2005 states that "nothing in this section preempts or affects any State water law or interstate compact relating to water." [[173]](#footnote-174)173

5. Tribes

In 2000, the Northern Ute Tribe received the deed to the 80,000 acre Naval Oil Shale Reserve, located on its reservation. The Tribe has not announced any plans to develop the oil shale deposits, but in 2005, it formed Ute Energy to begin actively developing its oil and gas resources. [[174]](#footnote-175)174 The Ute mineral development would fall under the Indian Mineral Development Act of 1982. [[175]](#footnote-176)175 This Act allows tribes to be more active participants in development of their mineral resources. [[176]](#footnote-177)176 Subject to the approval of the Secretary of the Interior, the tribes can enter into joint ventures rather than merely leasing minerals and collecting royalties. [[177]](#footnote-178)177 Tribal efforts to regain control over their mineral resources have been one of the pillars of tribal economic development in modern times. [[178]](#footnote-179)178

The Southern Ute Tribe has demonstrated that taking control of reservation mineral development can significantly affect the strength of the tribe and its members. [[179]](#footnote-180)179 Importantly for the Northern Ute Tribe, the Southern Ute Tribe has also been a leader in working to develop partnerships with neighboring tribes in mineral development. [[180]](#footnote-181)180 With this background, the Ute Tribe has an arguably unique opportunity to exert significantly more local control over oil shale development than the states can put forth.

Although the Ute Tribe is the only tribe with direct jurisdiction over oil shale, tribes in the region will certainly want to participate in the **[\*280]** process because of the impacts that development will likely have on the health of their members and preservation of their land and sacred resources. Additionally, the Winters Doctrine - which states that the federal government reserved significant water rights to the tribes in order to assure their continued viability on reservations [[181]](#footnote-182)181 - has important implications for all western water adjudications, including those that the water demands of oil shale development may cause.

[*IV*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8T9R-T3H2-D6RV-H37G-00000-00&context=1516831). Toward Comprehensive Management of the Oil Shale Resource

Oil shale development cannot move forward at this time due to technological constraints. It is the first mineral in the history of the United States that has eluded technology so much as to delay the onset of wholesale mining. These circumstances present a great opportunity to borrow the best parts of mineral, natural resources, and environmental law to ensure responsible development. There are important lessons from this country's century-and-a-half of experience with mining and mineral development that can help federal and state governments create an environmentally-progressive statutory and regulatory scheme before any oil companies begin commercial oil shale development in earnest.

A. Individual Local Mineral Development Lessons

The citizens of the three states that will be impacted by oil shale development are not in the habit of sitting idly by when their most cherished land resources are threatened. Although there are numerous individual cases of citizen and state responses to heavy-handed federal promotion of mineral development, three stand out as timely cautionary tales: (1) the national significance of Southern Utah Wilderness Alliance's ("SUWA") Redrock Wilderness campaign; (2) the Wyoming residents' use of tort law to protect their property rights from coalbed methane development; and (3) the groundswell of support from a diverse coalition of Coloradoans for measured development of oil and gas around the Roan Plateau. Each of these examples demonstrates not only different ways citizens become involved if they feel excluded from decisions about mineral development but also how passionate ties to land can lead to meaningful citizen engagement with state and federal policies toward mineral development.

**[\*281]**

1. SUWA's National Campaign to Save Utah's Redrock Wilderness

The SUWA was founded in 1983 [[182]](#footnote-183)182 in response to the BLM wilderness study inventory, which was a watershed event that led to one of the most enduring wilderness debates in the country. [[183]](#footnote-184)183 FLPMA required an inventory of all BLM lands in the country that contained 5,000 acres or more of uninterrupted wilderness - defined, in this context, primarily as being without roads. [[184]](#footnote-185)184 Southern Utah turned out to be a crucial meeting place of wild land, locals with a long tradition of perceived ownership by use - including grazing, hunting, and, increasingly, motorized recreation - of their neighboring public lands, and a passionate contingent of wilderness advocates. [[185]](#footnote-186)185 The wilderness battles of southern Utah may seem unrelated to the modern oil shale boom, but the organization's ability to turn a local debate into a national campaign [[186]](#footnote-187)186 can provide important lessons for state participation in mineral development.

SUWA's campaign for wilderness went national in 1990, as the organization was instrumental in producing Wilderness at the Edge - a citizen-led wilderness inventory report that eclipsed the scientific rigor of the BLM's wilderness study area inventory. [[187]](#footnote-188)187 The Utah Wilderness Coalition, of which SUWA was a leader, [[188]](#footnote-189)188 originally proposed designating 5.7 million acres as wilderness. [[189]](#footnote-190)189 Its vigilance has steadily increased the proposed land size to 9 million acres of wilderness. [[190]](#footnote-191)190 The Redrock Wilderness Act, which is the proposal that follows the Utah Wilderness Coalition's inventory numbers, was first brought to Washington, D.C. in 1989 and has been introduced in Congress every **[\*282]** year since. [[191]](#footnote-192)191 Although the Utah delegation has consistently pledged to block its passage, the steady annual drumbeat is a reminder of the ability of a local organization to make its cause of national concern. [[192]](#footnote-193)192

2. Split Estates, Surface Owner Protections, and Tort Law Recovery in Wyoming

Faced with a harsh climate and limited economic possibilities beyond ranching and oil and gas drilling, much of modern Wyoming has given itself over to the mineral industry. [[193]](#footnote-194)193 Wyoming enacted legislation in 2005 to give surface owners more traction to protect against oil and gas disturbances and recover damages from the companies that leased or purchased the subsurface mineral rights. [[194]](#footnote-195)194 Although split estate owners are beginning to assert these rights against oil and gas companies through the assistance of grassroots organizations like the Land Owners Association of Wyoming, [[195]](#footnote-196)195 the BLM may be unwilling to submit federal reserved mineral rights to state law. [[196]](#footnote-197)196

The legislative protection for split estate owners only applies in the oil and gas context, [[197]](#footnote-198)197 and therefore those affected by coalbed methane are sometimes left out. Despite the potential negative impacts of coalbed methane development on a landowner's surface, vegetation, and water supply, there has not been a comprehensive state or federal legislative response. [[198]](#footnote-199)198 Because of this, Wyoming property owners adversely affected by coalbed methane have turned to tort law. [[199]](#footnote-200)199 Suing under theories of trespass and nuisance, they have demonstrated that the state may need to expand its definition of surface owner protection. [[200]](#footnote-201)200 By successfully lobbying for greater legislative protections or, in the **[\*283]** alternative, suing to protect their property interests, split estate owners in Wyoming remind states facing oil shale development that affected residents will seek redress.

3. ***Colorado***'s Roan Plateau

The Roan Plateau, a high mesa previously unknown to most Coloradoans, stands as one of the more prescient examples of the way environmental and hunting and fishing communities can rally around areas heavily impacted by mineral development. The mesa, which stands thousands of feet above the surrounding arid, drill-rig laden landscape, is a place of natural beauty, home to forests, large game, waterfalls, and threatened species of fish. It is perhaps this beauty that brought the fight to save the Roan to the state capitol in Denver, where ***Colorado*** Governor Ritter asked the BLM to delay lease sales on the plateau, and to Washington, D.C., where a measure to ban drilling atop the plateau passed in the House of Representatives in 2007. [[201]](#footnote-202)201 Unfortunately, efforts to protect the Roan Plateau have generally failed at the national level. [[202]](#footnote-203)202

The inability to rally a majority in Congress serves as further evidence of the importance of state and local politics in making mineral policy decisions. It also highlights the challenges that states face in trying to take a stance on what has traditionally been an issue of federal policy. In response to the BLM's decision to lease the top of the Roan Plateau, Governor Bill Ritter, former Senator Ken Salazar, [[203]](#footnote-204)203 Congressman John Salazar, and Congressman Mark Udall expressed their disappointment with the Department of the Interior's failure to heed ***Colorado***'s wishes. [[204]](#footnote-205)204 Governor Ritter emphasized the tension between federal and state interests when he released a statement saying, "I strongly disagree and am disappointed in the department's decision" to ignore the "uniquely ***Colorado*** solution that struck a good balance and would benefit our economy, communities and energy industry while minimizing the impact to our environment." [[205]](#footnote-206)205 Although ***Colorado*** leaders submitted a plan to protect the top of the Roan Plateau in early **[\*284]** 2008, the BLM opened oil and gas leasing on August 14, 2008. [[206]](#footnote-207)206 In response, ten environmental groups have filed suit against the BLM on NEPA grounds. [[207]](#footnote-208)207

B. Relevant Mineral Law and Legal Precedent

1. Oil and Gas

The Federal Onshore Oil and Gas Leasing Reform Act of 1987 ("FOOGLRA") and cases construing it, establish that no property right in minerals accrues until a lease is issued, and companies must abide by all stipulations contained in the lease. [[208]](#footnote-209)208 Even though the mineral leasing procedures are well-established under FOOGLRA, [[209]](#footnote-210)209 oil shale is unique, and its leasing procedure has yet to be completely worked out. The OSTS FPEIS did little more than identify the list of oil shale development's possible environmental impacts and shifted the burden to levy more specific lease stipulations to the local BLM offices which will issue the leases. [[210]](#footnote-211)210 Because the property right in oil shale accrues at the time of the lease, this may be the last chance for federal regulation through lease stipulations. Additionally, petroleum mineral leases last for ten years, with the possibility of a two-year extension if the lessee can prove "diligence." [[211]](#footnote-212)211 It may be too early to tell what split estate surface owners and patented oil shale claimants may contribute to the development conversation, but the potential impacts from whole-scale development will likely have surface owners employing tools like that of some states' surface owners accommodation acts. [[212]](#footnote-213)212

**[\*285]**

2. The General Mining Law: Current National and International Reform Efforts

On May 24, 2007, Senator Wayne Allard proposed S. 1517, which drew on the lessons from the Roan Plateau in protecting ***Colorado***'s share of the special fund oil shale money by ensuring that it is managed by the ***Colorado*** Treasury. [[213]](#footnote-214)213 Advocates for slowing the rush to develop oil shale also passed a House Interior Funding Bill for the 2008 fiscal year, which allowed the Interior Department to work on the PEIS process for the oil shale lands, but prohibited them from spending money preparing, publishing, or conducting a commercial lease sale in 2008. [[214]](#footnote-215)214 Furthermore, West Virginia Representative Nick Rahall, introduced H.R. 2337, [[215]](#footnote-216)215 which includes a provision amending the Energy Policy Act of 2005 in order to slow the oil shale development process. [[216]](#footnote-217)216

***Colorado*** followed the federal model of using appropriations riders to prevent action on oil shale development when the state legislature included a provision in the $ 50 million appropriations bill for the 2008 Democratic National Convention, barring the BLM from acting on any oil shale leases in ***Colorado*** in 2008. [[217]](#footnote-218)217

Momentum is building to reform the General Mining Law, which lumbers on in nearly the same form as when it was enacted in 1872. [[218]](#footnote-219)218 Representative Rahall's mining reform bill, H.R. 2262, passed the House on November 1, 2007, by a vote of 244-166. [[219]](#footnote-220)219 The bill would enact an 8% royalty on new claims. [[220]](#footnote-221)220 Additionally, it contains provisions that would allow states, tribes, and local governments the opportunity to petition for withdrawal from mining in special places. [[221]](#footnote-222)221 The Supreme **[\*286]** Court has held that a present marketability standard should not apply to oil shale claims. [[222]](#footnote-223)222 It would behoove legislators and affected communities to require that the prudent-person-marketability standard for oil shale be factored independent of government subsidies and the costs of environmental protection and remediation be taken into account. [[223]](#footnote-224)223

3. The SMCRA Model

Some have suggested that the coal regulation reform enacted by the Surface Mining Control and Reclamation Act of 1977 ("SMCRA") is one of the rare models of successful mineral management in the history of the United States. [[224]](#footnote-225)224 The system of cooperative federalism holds states to federal standards, while leaving the permitting, enforcement, and regulation to the states. [[225]](#footnote-226)225 This system has resulted in little litigation. [[226]](#footnote-227)226 Benefiting from the congressional push for environmental litigation in the 1960s and 1970s, SMCRA held coal-mining companies to stringent standards of reclamation, using permitting requirements and regulations to ensure environmental protection. [[227]](#footnote-228)227 Oil shale development would benefit from learning two important lessons from SMCRA: the cooperative federalism model can work well for mineral regulation, and a detailed organizational statute can minimize litigation while still enforcing environmental standards.

C. Local, State, and Federal Permitting and Preemption

Other than uranium, mineral development has traditionally had a very state-specific or local flavor. Oil and gas permitting and enforcement have fallen almost entirely under the purview of state commissions because, even though much of the development is on federal lands, federal leasing is less robust than a simple checklist. The federal government promulgates coal regulations, and the federal-level buttress is important, but enforcement has successfully fallen to individual states. Even more illustrative of the importance of local regulation in the face of little federal regulation are the successful efforts **[\*287]** made by local communities to bring hard rock mining within environmental standards. Otherwise, hard rock mining has faced little regulation, because mines have traditionally been physically remote and mining companies politically powerful.

Even though the Energy Policy Act of 2005 and the OSTS PEIS process demonstrate the federal government's interest in oil shale development, the interest, leverage, and historical involvement in mineral development of states suggest that the center of power has yet to be determined. The sweeping PEIS process and the Secretary of the Interior's authority to lease oil shale lands will likely serve as a foundation for national oil shale policy. [[228]](#footnote-229)228 But the Western Slope community has proven to be highly vocal regarding the Roan Plateau issue, and the political scales seem to be tipping away from extractive resources and toward environmental resources throughout ***Colorado***. Utah and Wyoming seem interested in vigorously promoting mineral development, but even these states have been willing to protect special places through congressional designation. [[229]](#footnote-230)229 Congressional withdrawal of lands from mineral entry - usually initiated by the affected state - is the surest way to preclude the possibility of mineral development. [[230]](#footnote-231)230

At the local level, communities brought back to life by the tourist-fueled outdoor-recreation industry have begun to challenge mineral development, through county zoning regulations and local land-use permitting. [[231]](#footnote-232)231 The thirty-years-and-counting legal battle of the residents of Crested Butte, ***Colorado*** against the Red Lady mine is an important reminder of the power conferred on mining companies by U.S. policy favoring mineral extraction as the best use of land. [[232]](#footnote-233)232 These communities have been able to prevent mining operations by denying permits and utilizing ballot initiatives that tread lightly around possible preemption arguments. [[233]](#footnote-234)233

**[\*288]**

D. A Case Study of State Responsibility for Federal Messes: Leaving ***Colorado*** to Fund the Anvil

Points Cleanup

The Anvil Points site, which is also located within the oil shale region of ***Colorado***, offers a warning about the need to plan for remediation efforts. It is also relevant to this discussion because of the implications its cleanup has on mineral development revenues in the region. The 1997 Transfer Act, which brought all of the federal lands in the Green ***River*** Formation area under the authority of the BLM, contained a provision that funneled all Western Slope oil and gas revenues to pay for the costs of cleanup and remediation of the Anvil Points site. [[234]](#footnote-235)234 Due to the spent shale and other waste from mineral research conducted at the site during the 1970s, Anvil Points is now a Superfund site [[235]](#footnote-236)235 under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"). [[236]](#footnote-237)236 The fact that final remediation is likely years away on this small area of oil shale experimentation should serve as a warning to firm up remediation plans and procedures before starting commercial production.

Additionally, industry-driven predictions of windfall revenues paid to the state should be mitigated by the fact that the Anvil Points cleanup will siphon a considerable amount of these revenues. In other words, ***Colorado***'s hope for oil shale royalty bounty should be tempered by the federal government's revenue-sharing plan for Anvil Points. Superfund sites consume revenue, and there is good reason to use state mining funds to pay for cleanup. However, the Anvil Points example demonstrates that the federal government may hold states accountable for cleaning up mining impacts. States should recognize that they have **[\*289]** far more interest than the federal government in getting the most out of their royalty payments and in cleaning up the lands within their borders.

E. Toward a Measured Policy Approach

Are we comfortable with national sacrifice zones in the twenty-first century? If the region looks like a sandbox, is it worth preserving? As our public land law evolves alongside our conservation ethic, must we accept mineral sacrifice zones as we accept cordoned-off wilderness areas and Areas of Critical Environmental Concern? Would in-situ oil shale mining prevent the Green ***River*** Basin from becoming a sacrifice zone because the majority of the mining would be happening underground? As the modern environmental movement continues to progress toward a workable ethic, the role of local communities and their governments - municipal, county, and state - has become undeniable. The value of an area should be determined by the people who live there. [[237]](#footnote-238)237 The Green ***River*** Formation is home to more than 100,000 people, a number that continues to mushroom thanks to the twin (though arguably conflicting) attractions of tourism and mineral development. [[238]](#footnote-239)238 Even if we accept a national sacrifice zone on the ground, the world's citizens are increasingly demonstrating that they will not accept them in the face of climate change. [[239]](#footnote-240)239

Wallace Stegner and Mary Austin have endured as two of the most astute observers of the West's visceral lure and its hard-learned reality. Stegner's writings masterfully capture the cycle of hope and heartbreak of human development in the West. Angle of Repose follows Oliver Ward on his earnest engineer's quest to harness the resources of the West. Stegner's description of Ward was a description of western resource development more generally: "His clock was set on pioneer time… . Like many another Western pioneer, he had heard the clock of history strike, and counted the strokes wrong. Hope was always out ahead of fact, possibility obscured the outlines of reality." [[240]](#footnote-241)240 Austin turned the melodrama of the popular western story on its head with her essay "Jimville," which was about the simple, measured humanity, and **[\*290]** was actually more the norm than the exception in western mining towns. Instead of fleeting outlaws and heroic cowboys, she wrote about people drawn to and then tied to a place - the marriage of man to mineral development:

Yearly the spring fret floats the loose population of Jimville out into the desolate waste hot lands, guiding by the peaks and a few rarely touched water-holes, always, always with the golden hope. They develop prospects and grow rich, develop others and grow poor but never embittered. Say the hills, It is all one, there is gold enough, time enough, and men enough to come after you. [[241]](#footnote-242)241

Mineral development, even with all of its boom and bust, is as western as cowboy mythology and dramatic vistas. The promise of oil shale falls comfortably in line with the West's previous mineral dreams and development. Nevertheless, oil shale differs in one important manner: nature has trapped the resource in a way that requires an entirely new level of technological and financial backing of the mining process. It is a fitting twenty-first century evolution of what started with gold prospectors scratching away in streambeds in the nineteenth century. In the pregnant pause imposed by the technological, financial, and environmental challenges of mining oil shale, states and local communities should know their rights and make their voices heard. There is a high mesa of mineral law and policy precedent that can give them the benefit of heightened perspective. Under the leadership of local communities and affected states, oil shale development could represent a nod to the long history of western mineral extraction and recognition of the growing importance of the preservation ethic.

***Colorado*** Journal of International Environmental Law and Policy

Copyright (c) 2009 ***Colorado*** Journal of International Environmental Law, Inc.

***Colorado*** Journal of International Environmental Law and Policy

**End of Document**

1. 1 The oil shale in Utah, Wyoming, and ***Colorado***, known to geologists as the Eocene Green ***River*** Formation, was formed from blue-green algae that flourished in the region's warm, alkaline lakes 40-60 million years ago. John R. Dyni, U.S. Dep't of Interior, Geology and Resources of Some World Oil-Shale Deposits: Scientific Investigations Report 2005-5294 25-27 (2006), available at [*http://pubs.usgs.gov/sir/*](http://pubs.usgs.gov/sir/) 2005/5294/pdf/sir5294 508.pdf; see also United States Geologic Service, What is Geologic Time?, [*http://wrgis.wr.usgs.gov/parks/gtime/index.html*](http://wrgis.wr.usgs.gov/parks/gtime/index.html) (last visited Nov. 4, 2008). [↑](#footnote-ref-2)
2. 2 Donald Worster, ***Rivers*** of Empire: Water, Aridity, and the Growth of the American West 74-77 (1985). [↑](#footnote-ref-3)
3. 3 Id. [↑](#footnote-ref-4)
4. 4 See generally History of Indian Depredations in Utah (Peter Gottfredson ed., 1919) (compiled first-hand accounts of the Black Hawk War between the Utes and Mormons). For information on the Mormon War, see generally Norman F. Furniss, The Mormon Conflict: 1850-1859 (3rd ed. 2005). [↑](#footnote-ref-5)
5. 5 Nat'l Park Serv., Yellowstone National Park: History and Culture, [*http://www.nps.gov/yell/historyculture/index.htm*](http://www.nps.gov/yell/historyculture/index.htm) (last visited Nov. 4, 2008). [↑](#footnote-ref-6)
6. 6 See generally Dee Brown, Bury My Heart at Wounded Knee (Henry Holt and ***Co***. 1991) (1970). [↑](#footnote-ref-7)
7. 7 See generally Stephen E. Ambrose, Nothing Like it in the World: The Men Who Built the Transcontinental Railroad 1863-1869 (Simon & Schuster, Inc. 2001) (2000). [↑](#footnote-ref-8)
8. 8 See generally Elliott West, The Contested Plains: Indians, Goldseekers, and the Rush to ***Colorado***, 207-235 (1st prtg. 1998). [↑](#footnote-ref-9)
9. 9 Andrew Gulliford, Boomtown Blues 20 (1989) (quoting F.V. Hayden, Tenth Annual Report of the United States Geological and Geographical Survey of the Territories Embracing ***Colorado*** and Part of Adjacent Territories Being a Report of Progress of the Exploration for the Year 1876, 170, 173 (U.S. Gov't Printing Office 1878)). [↑](#footnote-ref-10)
10. 10 Homestead Act of 1862, [*43 U.S.C.§§161*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SDD-0HD2-8T6X-72XX-00000-00&context=1516831)-284 (repealed 1976); [*Coffin v. Left Hand Ditch* ***Co****., 6* ***Colo.*** *433 (****Colo.*** *1882)*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3RRR-30N0-0040-03FY-00000-00&context=1516831) (holding that the right of water by priority of appropriation is protected); General Mining Law of 1872, [*30 U.S.C.§§21*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8S9D-WCR2-8T6X-730R-00000-00&context=1516831)-42 (2006). [↑](#footnote-ref-11)
11. 11 Gulliford, supra note 9, at 20 (quoting Hayden, supra note 9, at xvi). [↑](#footnote-ref-12)
12. 12 Carl Ubbelohde, Duane Smith & Maxine Benson, A ***Colorado*** History 57, 154-55, 196 (Pruett Publ'g ***Co***. 1995) (1965). [↑](#footnote-ref-13)
13. 13 D Callaway, J. Janetski, and O. C. Stewart, Ute, in 11 Handbook of North American Indians 336-67 (W. L. D'Azevedo, ed., Smithosonian Institution: Washington, D.C., 1986); see also, 1 Indian Affairs: Laws and Treaties, Compiled to December 1, 1902, 834-35 (Charles J. Kappler, ed., U.S. Gov't Printing Office 1904). [↑](#footnote-ref-14)
14. 14 [↑](#footnote-ref-15)
15. 15 Gulliford, supra note 9, at 7. [↑](#footnote-ref-16)
16. 16 Id. [↑](#footnote-ref-17)
17. 17 No one has been able to verify this tale, but most folks begin their oil shale story with Mike Callahan. Perhaps because, even if it is not true, it makes for a good campfire yarn and jovially offers a lesson for the wary. And every good western tale needs to include a warning that will not be heeded. [↑](#footnote-ref-18)
18. 18 This Note deals only with oil shale and not its cousin, tar sands. These two types of rock are often lumped together for policy purposes because both contain oil that must be forced out, and there is some crossover in technology. Canada is the world leader in tar sands development. For a good overview of Canadian tar sands, see generally Elizabeth Kolbert, Unconventional Crude: Canada's Synthetic-Fuels Boom, New Yorker, Nov. 12, 2007, at 46-51. [↑](#footnote-ref-19)
19. 19 Western Resource Advocates, Scoping Comments: Oil Shale and Tar Sands Resources Leasing Programmatic EIS, at 5 (2006) [hereinafter WRA Scoping Comments]. [↑](#footnote-ref-20)
20. 20 Id. [↑](#footnote-ref-21)
21. 21 Id. at 6. [↑](#footnote-ref-22)
22. 22 Id. [↑](#footnote-ref-23)
23. 23 Id. [↑](#footnote-ref-24)
24. 24 Gulliford, supra note 9, at 47-48. [↑](#footnote-ref-25)
25. 25 Id. [↑](#footnote-ref-26)
26. 26 [*United States v. Midwest Oil* ***Co****., 236 U.S. 459, 466 (1915)*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3S4X-7630-003B-H35G-00000-00&context=1516831) (internal citation omitted). [↑](#footnote-ref-27)
27. 27 Daniel Yergin, The Prize: The Epic Quest for Oil, Money, and Power, 167-68, 208-09, 211 (Simon & Schuster, Inc. 2003) (1991). [↑](#footnote-ref-28)
28. 28 [*Midwest Oil* ***Co****., 236 U.S. at 466-67*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3S4X-7630-003B-H35G-00000-00&context=1516831) (internal citation omitted). [↑](#footnote-ref-29)
29. 29 See [*id. at 472.*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3S4X-7630-003B-H35G-00000-00&context=1516831) [↑](#footnote-ref-30)
30. 30 Id. [↑](#footnote-ref-31)
31. 31 Charles F. Wilkinson, Crossing the Next Meridian: Land, Water and the Future of the West, 52-53 (1992). [↑](#footnote-ref-32)
32. 32 See Gulliford, supra note 9, at 49. [↑](#footnote-ref-33)
33. 33 Id. [↑](#footnote-ref-34)
34. 34 U.S. Dept. of Energy, The Naval Petroleum and Oil Shale Reserves - 90 Years of Ensuring the National Security, [*http://www.fossil.energy.gov/programs/reserves/npr/npr-90years.html*](http://www.fossil.energy.gov/programs/reserves/npr/npr-90years.html) (last visited Oct. 2, 2008). [↑](#footnote-ref-35)
35. 35 The key word here is "almost" because the Anvil Points cleanup continues to be a major effort within ***Colorado***. The site contains a 300,000 cubic-yard spent shale pile containing arsenic and other processing waste, which the Bureau of Land Management ("BLM") is considering taking to a nearby landfill site. Dennis Webb, BLM: Funds Likely Adequate for Anvil Points Cleanup, Glenwood Springs Post Independent, Oct. 30, 2007. [↑](#footnote-ref-36)
36. 36 On March 13, 1958, the Attorney General issued an opinion stating "the Secretary of the Navy is not authorized to lease the shale deposits, demonstration facilities and improvements on public lands in the naval oil shale reserves to private industry for the conduct of an experimental program in the extraction of synthetic liquid fuels from oil shale." 41 Op.Atty.Gen. (1958) (cited in annotations for [*30 U.S.C.A. § 241*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8S9D-WCR2-8T6X-736W-00000-00&context=1516831) (West 2005)). [↑](#footnote-ref-37)
37. 37 U.S. Dept. of Energy, supra note 34. [↑](#footnote-ref-38)
38. 38 George Coggins et al., Federal Public Land and Resource Law, 106 (6th ed. 2007). [↑](#footnote-ref-39)
39. 39 Mineral Leasing Act of 1920, ch. 85, ***41 Stat. 437*** (codified as amended in scattered sections of 30 U.S.C.). [↑](#footnote-ref-40)
40. 40 Id. at [*30 U.S.C. § 241*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8S9D-WCR2-8T6X-736W-00000-00&context=1516831)(2), (4) (2006). The 2005 amendments increased the maximum lease size from 5,120 to 5,760. [*30 U.S.C.A. § 241*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8S9D-WCR2-8T6X-736W-00000-00&context=1516831) (historical and statutory notes, 2005 amendments). [↑](#footnote-ref-41)
41. 41 See [*Midwest Oil* ***Co****., 236 U.S. at 466-67;*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3S4X-7630-003B-H35G-00000-00&context=1516831) see also Mineral Leasing Act of 1920, supra note 39. [↑](#footnote-ref-42)
42. 42 Gulliford, supra note 9, at 57. [↑](#footnote-ref-43)
43. 43 Yergin, supra note 27, at 246-50. [↑](#footnote-ref-44)
44. 44 Gulliford, supra note 9, at 57. [↑](#footnote-ref-45)
45. 45 Yergin, supra note 27, at 613-617, 665. [↑](#footnote-ref-46)
46. 46 The Energy Security Act of 1980 was a collection of six separate bills meant to encourage alternative fuel resource development. One of those bills was passed as the United States Synthetic Fuels Corporation Act of 1980. Pub. L. No. 96-294, [*94 Stat. 633 (1980).*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:5CD7-HSK0-01XN-S204-00000-00&context=1516831) [↑](#footnote-ref-47)
47. 47 Gulliford, supra note 9, at 8. [↑](#footnote-ref-48)
48. 48 Id. at 121. [↑](#footnote-ref-49)
49. 49 Id. at 121-22, 127. [↑](#footnote-ref-50)
50. 50 Id. at 12. [↑](#footnote-ref-51)
51. 51 Philip Shabecoff, Interior Department Acts to Speed Sales of Public Lands for Development, N. Y. Times, Jan. 8, 1989. [↑](#footnote-ref-52)
52. 52 Estonia is currently the only country that depends on oil shale as its primary source of energy. Estonia Energy, [*http://www.estoniaenergy.com*](http://www.estoniaenergy.com) (last visited Oct. 6, 2008). A state-owned Estonian company, EESTI Energia is the "only predominantly oil-shale-based energy production system in the world." EESTI Energia, Introduction, [*http://www.energia.ee/index.php?id=2&L=1*](http://www.energia.ee/index.php?id=2&L=1) (last visited Oct. 6, 2008). Russia, Brazil, and China have small-scale development projects and Jordan, Mongolia, and Turkey have initiated research and development on oil shale or tar sands. See WRA Scoping Comments, supra note 19; see also James T. Bartis et al., RAND Corp., Oil Shale Development in the United States Prospects and Policy Issues 13-14 (2005), available at [*http://rand.org/pubs/reports/R2293*](http://rand.org/pubs/reports/R2293) [hereinafter RAND Report]. [↑](#footnote-ref-53)
53. 53 BLM, Oil Shale and Tar Sands Programmatic EIS Information Center, About Oil Shale, [*http://ostseis.anl.gov/guide/oilshale/index.cfm*](http://ostseis.anl.gov/guide/oilshale/index.cfm) (last visited Dec. 23, 2008) [hereinafter BLM OSTS Website]. It is important to note not only the enormous variation in the federal government's estimates, but also that the website notes that "not all resources in place are recoverable." Id. [↑](#footnote-ref-54)
54. 54 Id. [↑](#footnote-ref-55)
55. 55 See BLM OSTS Website, supra note 53 (stating that BLM administered the EIS in accordance with the Energy Policy Act of 2005, Pub. L. 109-58, § 369(d)(1) (2005)). Although they fall under the purview of the PEIS, the two original Naval Oil Shale Reserves (which comprise of a relatively small amount of the 8.7 million acres) have different designations: Anvil Points is a Superfund site the second Naval Oil Shale Reserve was deeded to the Ute Indian Tribe on December 4, 2000. U.S. Dept. of Energy, supra note 34. [↑](#footnote-ref-56)
56. 56 E-mail from Sherri Thompson, Project Manager, Bureau of Land Management OSTS PEIS, to Carrie Covington (Nov. 28, 2007) (on file with ***Colo.*** J. Int'l Envtl. L. & Pol'y). The acreage breakdown is: Piceance Basin, ***Colorado*** 1,185,700 acres; Uintah Basin, Utah 2,977,900 acres; Green ***River*** and Washakie Basins, Wyoming 4,506,200 acres; Total 8,669,800 acres. Id. [↑](#footnote-ref-57)
57. 57 U.S. Census Bureau, American FactFinder, ***Colorado*** County Population Estimates (2000-2007), [*http://factfinder.census.gov/home/saff/main.html*](http://factfinder.census.gov/home/saff/main.html)? lang=en (follow "Population Finder" hyperlink; then search "State" for "***Colorado***;" then follow "Population for all counties in ***Colorado***, 2000-2007 alphabetic" hyperlink) (Mesa County is the most populous in the region with an estimated population of 139,082 for 2007; Garfield County is a distant second with 53,631; Moffatt and Rio Blanco are much less populous) [↑](#footnote-ref-58)
58. 58 Jason Blevins, Garfield County Sees Explosive Growth, Denver Post, Nov. 13, 2007. [↑](#footnote-ref-59)
59. 59 Energy Policy Act of 2005, § 369(d)(1) Pub. L. No. 109-58, ***119 Stat. 728 (2005),*** [*42 U.S.C. § 15927*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SHT-0732-D6RV-H2K2-00000-00&context=1516831)(d)(1) (Supp. V 2005) (The Energy Policy Act of 2005 will be cited using the [*42 U.S.C. § 15927*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SHT-0732-D6RV-H2K2-00000-00&context=1516831) provisions for the remainder of this Note). [↑](#footnote-ref-60)
60. 60 Bureau of Land Management, Proposed Oil Shale and Tar Sands Resource Management Plan Amendments to Address Land Use Allocations in ***Colorado***, Utah, and Wyoming and Final Programmatic Environmental Impact Statement, 1-2 (2008), available at [*http://ostseis.anl.gov/eis/guide/index.cfm*](http://ostseis.anl.gov/eis/guide/index.cfm) [hereinafter OSTS FPEIS]. [↑](#footnote-ref-61)
61. 61 The RAND Report provides an extensive evaluation of the processes involved in extracting oil from shale, the comparative probabilities of success with each process, and the potential efficiencies of the processes. RAND Report, supra note 52. This Note is most interested with the United States' regulatory posture toward this resource. [↑](#footnote-ref-62)
62. 62 The term "retort" does not suggest that the oil responds to caustic yet witty remarks by extracting itself from the shale. In science, retort refers to a closed system with an outlet tube that causes distillation through heat. The American Heritage(R) Dictionary of the English Language 1489 (4th ed. 2000). Although there are variations within surface retort and in-situ underground retort methods, this Note will deal only with differences between the two - not least because companies are carefully protecting any proprietary technological developments. [↑](#footnote-ref-63)
63. 63 RAND Report, supra note 52, at 11. [↑](#footnote-ref-64)
64. 64 Id. [↑](#footnote-ref-65)
65. 65 RAND Report, supra note 52, at 12-13. [↑](#footnote-ref-66)
66. 66 Id. at 13. [↑](#footnote-ref-67)
67. 67 To the author's knowledge, the Oil Shale Exploration Company of Utah is the only company actively pursuing the surface retort method in the Green ***River*** Basin. It has begun efforts to use the surface retort process on a previously-dug shale mine in Utah. Oil Shale Exploration ***Co***., Technology Extracting Synthetic Oil from Oil Shale, [*http://www.oilshaleexplorationcompany.com/tech.asp*](http://www.oilshaleexplorationcompany.com/tech.asp) (last visited Oct. 6, 2008). [↑](#footnote-ref-68)
68. 68 WRA Scoping Comments, supra note 19, at 9-10. [↑](#footnote-ref-69)
69. 69 Id. at 17. [↑](#footnote-ref-70)
70. 70 See, id. at 19. Shell, Exxon, and E.G.L. Oil Shale LLC are all working to make in-situ retorting commercially viable. See Presentations at the 27th Oil Shale Symposium (Oct. 16, 2007) (CD-ROM containing PowerPoint presentation is on file with author). [↑](#footnote-ref-71)
71. 71 RAND Report, supra note 52, at 17-18. [↑](#footnote-ref-72)
72. 72 Id. at 17. [↑](#footnote-ref-73)
73. 73 See, eg., WRA Scoping Comments, supra note 19, at 10-11 (giving the example of Shell's research operations and the uncertainty of larger-scale application). [↑](#footnote-ref-74)
74. 74 Nancy Lofholm, Shell Shelves Oil Shale Application to Refine its Research, Denver Post, June 16, 2007. [↑](#footnote-ref-75)
75. 75 See, eg., Chemical Engineering Department of University of Utah, Environmental Impact of In-Situ Processing Presentation at the 27th Oil Shale Symposium (Oct. 16, 2007); Wendy Harrison, ***Colorado*** School of Mines, Addressing Water Quality Impacts of Oil Shale Development - Modern Approaches for an Old Problem, Presentation at the 27th Oil Shale Symposium (Oct. 16, 2007); David Alleman, National Energy Technology Laboratory, Environmental Challenges and RD&D Needs: Perspectives on Oil Shale Development, Presentation at the 27th Oil Shale Symposium (Oct. 16, 2007) (CD-ROM containing the PowerPoint presentations of these speakers is on file with author). OSTS FPEIS, supra note 60. [↑](#footnote-ref-76)
76. 76 Shell Exploration and Production Company, Geomechanics of Oil Shale In-Situ Conversion Process Presentation at the 27th Oil Shale Symposium (Oct. 16, 2007) (CD-ROM containing PowerPoint presentation is on file with author). [↑](#footnote-ref-77)
77. 77 Id. [↑](#footnote-ref-78)
78. 78 Id. [↑](#footnote-ref-79)
79. 79 Id. [↑](#footnote-ref-80)
80. 80 Id. [↑](#footnote-ref-81)
81. 81 Id. [↑](#footnote-ref-82)
82. 82 Press Release, The White House and President George W. Bush, Fact Sheet: President Bush Signs Into Law a National Energy Plan (Aug. 8, 2005), available at http://www.whitehousegov/news/releases/2005/08/print/20050 808-4.html. [↑](#footnote-ref-83)
83. 83 Donna Gray, Senators Hear Committee's Suggestion on Easing into Oil Shale Development, Glenwood Springs Post Independent, June 2, 2006. [↑](#footnote-ref-84)
84. 84 RAND Report, supra note 52, at 2. In 2003, RAND identified the BLM's establishment of the Oil Shale Task Force. Early the following year, the Office of Deputy Assistant Secretary for Petroleum Reserves authored a report that concluded that oil shale development was coming back into the range of economic possibility and represented a way to boost domestic oil supplies. Id. at 1. [↑](#footnote-ref-85)
85. 85 [*42 U.S.C. § 15927*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SHT-0732-D6RV-H2K2-00000-00&context=1516831)(a). [↑](#footnote-ref-86)
86. 86 See The Vast North American Resource Potential of Oil Shale, Oil Sands, and Heavy Oils, Parts 1 and 2, Oversight Hearings Before the H. Subcomm. on Energy and Mineral Resources of the H. Comm. On Resources, 109th Cong. (2005). [↑](#footnote-ref-87)
87. 87 Id. at 4, 51 (Raul Grijalva, Representative of Arizona, and Russell George, Executive Director of the ***Colorado*** Department of Natural Resources, were two strong voices for state and local partnership in the development of oil shale). [↑](#footnote-ref-88)
88. 88 See, e.g., [*42 U.S.C.§§15927*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SHT-0732-D6RV-H2K2-00000-00&context=1516831)(b), (e), (g), (k). [↑](#footnote-ref-89)
89. 89 See, e.g., id.§§15927(l), (o). [↑](#footnote-ref-90)
90. 90 See, e.g., id.§§15927(c), (f), (g), (k), (n). [↑](#footnote-ref-91)
91. 91 The language of multiple-use and sustainable-yield is certainly not a recent development, as Gifford Pinchot's influence on Forest Service practices demonstrates. See Wilkinson, Crossing, supra note 31, at 127-131. But it was not until groundbreaking environmental legislation like the Wilderness Act that the language of sustainability - of valuing aesthetics as much as economics - became practice. The Wilderness Act of 1964, Pub. L. No. 88-577, [*16 U.S.C. §§1131*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8S7X-DBF2-D6RV-H4B8-00000-00&context=1516831)-1136 (2006). [↑](#footnote-ref-92)
92. 92 [*42 U.S.C. § 15927*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SHT-0732-D6RV-H2K2-00000-00&context=1516831)(b). [↑](#footnote-ref-93)
93. 93 Id. § 15927(e). [↑](#footnote-ref-94)
94. 94 Id. § 15927(h)(2). [↑](#footnote-ref-95)
95. 95 Id. § 15927(k)(1). [↑](#footnote-ref-96)
96. 96 Id. [↑](#footnote-ref-97)
97. 97 Id. § 15927(h)(1). [↑](#footnote-ref-98)
98. 98 Id. § 15927(k). [↑](#footnote-ref-99)
99. 99 Id. § 15927(c) makes available "prospective public lands within each of the States of ***Colorado***, Utah, and Wyoming." In his testimony at the Oversight Hearings of the House Subcommittee on Energy and Mineral Resources, June 30, 2005, BLM representative Chad Calvert explained the Oil Shale Research, Development and Demonstration lease program:

    The RD&D lease program design allows tracts of land up to 160 acres to be used to demonstrate the economic feasibility of today's technologies over a lease term of ten years, with the option for an extension of up to five years. The payment of royalties will be waived during the RD&D lease, payment of rental will be waived for the first five years of the RD&D lease, and an applicant may identify up to an additional contiguous 4,960 acres that it requests be reserved for a preference right commercial lease should RD&D efforts prove successful in demonstrating the economic feasibility of oil shale production. Consequently, given the small scale of the RD&D leases, BLM has determined that for environmental review under NEPA, site-specific environmental assessments (EAs) would be more appropriate than a programmatic environmental impact statement (PEIS) document. The complexity of the analysis required for the RD&D lease will depend on the location, the type of project proposed, and the type of technology to be used.

    Vast North American Resource Potential of Oil Shale, Tar Sands, and Heavy Oil, Parts 1 and 2: Hearing on Serial 109-22 Before the H. Subcomm. on Energy and Mineral Resources, 109th Cong. 83-120 (2005) (statement of Chad Calvert, Deputy Assistant Secretary, Land and Minerals Management, BLM, Department of the Interior). [↑](#footnote-ref-100)
100. 100 [*42 U.S.C. § 15927*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SHT-0732-D6RV-H2K2-00000-00&context=1516831)(o). [↑](#footnote-ref-101)
101. 101 Id. § 15927(i)(1)(E). [↑](#footnote-ref-102)
102. 102 Id. § 15927(l)(2). [↑](#footnote-ref-103)
103. 103 Id. § 15927(l)(1). [↑](#footnote-ref-104)
104. 104 [*42 U.S.C. § 15924*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SHT-0732-D6RV-H2JY-00000-00&context=1516831) (Supp. V 2005) (permitting consists of fielding applications and enforcing environmental compliance). [↑](#footnote-ref-105)
105. 105 Id. § 15924(f)(2). [↑](#footnote-ref-106)
106. 106 Id. § 15924(d). [↑](#footnote-ref-107)
107. 107 [*42 U.S.C. § 15927*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SHT-0732-D6RV-H2K2-00000-00&context=1516831)(k). [↑](#footnote-ref-108)
108. 108 OSTS FPEIS, supra note 60, at 1-2. [↑](#footnote-ref-109)
109. 109 Id. at ES-7-ES-8 (the acreage is broken down among the three affected states as follows: 356,798 acres in ***Colorado***; 630,971 acres in Utah; 1,000,453 acres in Wyoming). [↑](#footnote-ref-110)
110. 110 Id. at 1-1. [↑](#footnote-ref-111)
111. 111 Id. at 1-2. [↑](#footnote-ref-112)
112. 112 Id. at 1-2-1-3. [↑](#footnote-ref-113)
113. 113 Id. at 1-3. [↑](#footnote-ref-114)
114. 114 Id. On NEPA's "hard look" requirement, see, e.g., [*Marsh v. Or. Natural Res. Council, 490 U.S. 360, 374 (1989).*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3S4X-BD50-003B-427B-00000-00&context=1516831) [↑](#footnote-ref-115)
115. 115 [*42 U.S.C. § 15927*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SHT-0732-D6RV-H2K2-00000-00&context=1516831)(d)(1). [↑](#footnote-ref-116)
116. 116 Id. (Congress mandated a deadline of 18 months after the EPA was signed). [↑](#footnote-ref-117)
117. 117 OSTS FPEIS, supra note 60, at ES-2. [↑](#footnote-ref-118)
118. 118 See Press Release, BLM, BLM Identifies Lands for Potential Development of Significant Oil Shale Resources (Sept. 4, 2008), available at [*http://ostseis.anl.gov/documents/index.cfm*](http://ostseis.anl.gov/documents/index.cfm). [↑](#footnote-ref-119)
119. 119 Id. at ES-5-6. [↑](#footnote-ref-120)
120. 120 [*42 U.S.C. § 15927*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SHT-0732-D6RV-H2K2-00000-00&context=1516831)(d). [↑](#footnote-ref-121)
121. 121 Press Release, BLM, Western Oil Shale Potential: 800 Billion Barrels of Recoverable Oil (July 22, 2008), available at [*http://www.Blm.Gov/wo/st/en/info/newsroom/2008/July/NR*](http://www.Blm.Gov/wo/st/en/info/newsroom/2008/July/NR) 07 22 2008. html. [↑](#footnote-ref-122)
122. 122 Gargi Chakrabarty & Todd Hartman, Oil Shale Comments Pour Into BLM, Rocky Mountain News, Sept. 25, 2008, available at [*http://www.rockymountainnews.com/news/2008/sep/25/oil-shale-comments-pour-in-to-blm/*](http://www.rockymountainnews.com/news/2008/sep/25/oil-shale-comments-pour-in-to-blm/). [↑](#footnote-ref-123)
123. 123 Id. See also Associated Press, Oil Shale Ban Expires, Boulder Daily Camera, Oct. 2, 2008, available at [*http://www.dailycamera.com/news/2008/oct/02/oil-shale-ban-expires/*](http://www.dailycamera.com/news/2008/oct/02/oil-shale-ban-expires/). [↑](#footnote-ref-124)
124. 124 OSTS FPEIS, supra note 60, at 1-18. [↑](#footnote-ref-125)
125. 125 [*N. Alaska Envt'l Ctr. v. Kempthorne, 457 F.3d 969, 976-77 (9th Cir. 2006).*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:4KGY-X2W0-0038-X1PS-00000-00&context=1516831) [↑](#footnote-ref-126)
126. 126 See generally, Chapter 4, "Effects of Oil Shale Technologies" in OSTS FPEIS, supra note 60, at 4-1-4-186, (including a185-page list of potential environmental impacts); 4-17 (explaining, with unsurprising vagueness due to the enormous scope of the OSTS PEIS, "Like hunting, grazing, oil and gas development, and recreation, commercial oil shale are statutorily authorized uses of BLM lands. The BLM is aware that not all authorized uses can occur on the same lands at the same time … . Future decisions regarding oil shale leasing and approval of operating permits will be informed by NEPA analysis of the conflicting or alternative land uses of individual areas."); 4-31 (on impacts to water resources, the document says, "The locations where oil shale development may occur may not match the locations where water supplies are available. This last issue might require development of new infrastructure for water transport or water storage, which would cause additional adverse environmental impacts on water resources.") [↑](#footnote-ref-127)
127. 127 The OSTS FPEIS is 1,828 pages long not counting the appendix containing the public comments and responses. See OSTS FPEIS, supra note 60. [↑](#footnote-ref-128)
128. 128 [*30 U.S.C. § 241.*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8S9D-WCR2-8T6X-736W-00000-00&context=1516831) [↑](#footnote-ref-129)
129. 129 Id. § 241(a)(1). [↑](#footnote-ref-130)
130. 130 Id. § 241(a)(3). [↑](#footnote-ref-131)
131. 131 Id. § 241(a)(4). [↑](#footnote-ref-132)
132. 132 Id. [↑](#footnote-ref-133)
133. 133 Id. § 241(a)(2), (4). [↑](#footnote-ref-134)
134. 134 Id. § 241(c). [↑](#footnote-ref-135)
135. 135 Id. § 241(c)(1). [↑](#footnote-ref-136)
136. 136 Id. § 241(c)(2). [↑](#footnote-ref-137)
137. 137 Id. § 241(c)(6). [↑](#footnote-ref-138)
138. 138 Id. § 241(c)(7). [↑](#footnote-ref-139)
139. 139 Id. § 241(c)(4). [↑](#footnote-ref-140)
140. 140 Id. § 241(d)(1), (2). [↑](#footnote-ref-141)
141. 141 Id. § 241(d)(3). [↑](#footnote-ref-142)
142. 142 Id. [↑](#footnote-ref-143)
143. 143 WY. Const. art. XV, § 19. The distribution percentages are found under ***Wyo. Stat. Ann. § 9-4-601*** (2008). [↑](#footnote-ref-144)
144. 144 [*Wyo. Stat. Ann. § 39-14-703*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:56VF-H5V1-73WF-6069-00000-00&context=1516831) (2008). [↑](#footnote-ref-145)
145. 145 [*Anschutz Corp. v. Wyo. Oil and Gas Conservation Comm'n, 923 P.2d 751, 755 (Wyo. 1996).*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3RVJ-B500-003G-J050-00000-00&context=1516831) [↑](#footnote-ref-146)
146. 146 See Wyoming Oil and Gas Conservation Commission, [*http://wogcc.state.wy.us*](http://wogcc.state.wy.us) (last visited Oct. 10, 2008) (two examples can be found at: (1) follow "APD's" hyperlink; then follow "All" hyperlink; then enter a time frame to see the list of applications and approvals, most of which happen within three days to two weeks of the application; and (2) follow "production" hyperlink; then follow "State (displays production)" hyperlink; then follow "Graph Gas Production" hyperlink). [↑](#footnote-ref-147)
147. 147 [*Wyo. Stat. Ann. § 30-5-402*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:56VF-H1P1-73WF-64NM-00000-00&context=1516831) (2008). [↑](#footnote-ref-148)
148. 148 In 2005, the BLM leased the White ***River*** Mine to the Oil Shale Exploration Company. Oil Shale Exploration Company, [*http://www.oilshaleexplorationcompany.com/resource.asp*](http://www.oilshaleexplorationcompany.com/resource.asp) (last visited Oct. 20, 2008). BLM issued leases to pursue a surface retort operation at the abandoned White ***River*** mine near Vernal, despite BLM having to delay the FONSI and ultimately requiring that OSEC "keep piles of spent shale in lined pits until officials can figure out how to dispose of the waste." Paul Foy, Interior Department Approves Reopening of Utah Oil-Shale Mine, Deseret News, May 1, 2007, available at http://find articles.com/p/articles/mi qn4188/is /ai n19048960. [↑](#footnote-ref-149)
149. 149 State of Utah, Oil Shale/Tar Sands, [*http://www.utah.gov/energy/governors*](http://www.utah.gov/energy/governors) priorities/oil shale tar sands.html (last visited Oct. 13, 2008). [↑](#footnote-ref-150)
150. 150 Id. [↑](#footnote-ref-151)
151. 151 Dep't of Energy, Utah Heavy Oil Program, [*http://www.netl.doe.gov/technologies/oil-gas/*](http://www.netl.doe.gov/technologies/oil-gas/) Petroleum/projects/EP/Explor Tech/15569UtahCtr.html (last visited Oct. 13, 2008). [↑](#footnote-ref-152)
152. 152 [*Utah Code Ann. § 59-5-120(2)*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:5JDW-4RV1-DXC8-04DD-00000-00&context=1516831) (2008). [↑](#footnote-ref-153)
153. 153 Id. § 59-12-104(65)(a) (2008). [↑](#footnote-ref-154)
154. 154 See H.R. 241, Gen. Sess. (Utah 2006). [↑](#footnote-ref-155)
155. 155 See generally, [*Utah Code Ann. § 63M-4-301*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:628K-8YG3-GXJ9-309M-00000-00&context=1516831) (2008). [↑](#footnote-ref-156)
156. 156 [***Colo.*** *Rev. Stat. § 34-63-104(1)*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:61P5-WXJ1-DYDC-J3CG-00000-00&context=1516831) (2008). [↑](#footnote-ref-157)
157. 157 Id. § 39-29-107 (2008). [↑](#footnote-ref-158)
158. 158 Press Release, Office of Gov. Bill Ritter, Jr., Gov. Ritter Testifies Before U.S. Senate Committee About Oil Shale Development (May 15, 2008), available at [*http://www.****colorado****.gov/cs/Satellite/GovRitter/GOVR/1210842794693*](http://www.colorado.gov/cs/Satellite/GovRitter/GOVR/1210842794693); see also Todd Hartman, Ritter Wants No Oil-Shale Rush, Rocky Mountain News, Mar. 21, 2008. [↑](#footnote-ref-159)
159. 159 Chris Barge, Ritter, Energy Industry Part on Regulatory Path, Rocky Mountain News, Apr. 7, 2008, available at [*http://www.rockymountainnews.com/news/2008/apr/07/ritter-energy-industry-part-on-regulatory-path/*](http://www.rockymountainnews.com/news/2008/apr/07/ritter-energy-industry-part-on-regulatory-path/).

     Effective July 1, 2007, the commission shall consist of nine members, seven of whom shall be appointed by the governor with the consent of the senate and two of whom, the executive director of the department of natural resources and the executive director of the department of public health and environment, shall be ex officio voting members. At least two members shall be appointed from west of the continental divide, and, to the extent possible, consistent with this paragraph (a), the other members shall be appointed taking into account the need for geographical representation of other areas of the state with high levels of oil and gas activity or employment. Three members shall be individuals with substantial experience in the oil and gas industry, and at least two of said three members shall have a college degree in petroleum geology or petroleum engineering; one member shall be a local government official; one member shall have formal training or substantial experience in environmental or wildlife protection; one member shall have formal training or substantial experience in soil conservation or reclamation; and one member shall be actively engaged in agricultural production and also be a royalty owner. Excluding the executive directors from consideration, no more than four members of the commission shall be members of the same political party.

     [***Colo.*** *Rev. Stat. § 34-60-104(2)(a)(I)*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:61P5-WXJ1-DYDC-J39V-00000-00&context=1516831) (2008) (quoted at length to demonstrate Governor Ritter's progressive approach to oil and gas management for ***Colorado***). [↑](#footnote-ref-160)
160. 160 H.R. 1298 (1)(A)(IV), Gen. Assem., (***Colo.*** 2007). [↑](#footnote-ref-161)
161. 161 Statement of Basis, Specific Statutory Authority, and Purpose: New Rules and Amendments to Current Rules, ***Colorado*** Oil and Gas Conservation Commission, [*2CCR 404-1*](https://advance.lexis.com/api/document?collection=administrative-codes&id=urn:contentItem:69PB-4S91-JJYN-B00K-00009-00&context=1516831), available at [*http://www.oil-gas.state.****co****.us/RuleMaking/FinalDraftRules/Final%20Draft%20Rules.htm*](http://www.oil-gas.state.co.us/RuleMaking/FinalDraftRules/Final%20Draft%20Rules.htm) (click on Final Statement of Basis, Specific Statutory Authority and Purpose 12/11/08) (last visited Dec. 19, 2008). [↑](#footnote-ref-162)
162. 162 H.R. 1341, 66th Gen. Assem., 1st Reg. Sess. (***Colo.*** 2007); see also ***Colorado*** Oil and Gas Conservation Commission ("COGCC"), Rulemaking, [*http://cogcc.state.****co****.us/RuleMaking/2007RuleMaking.cfm*](http://cogcc.state.co.us/RuleMaking/2007RuleMaking.cfm) (last visited Nov. 7, 2008) (the ***Colorado*** Oil and Gas Conservation Commission's Rulemaking Activity Page, which contains timelines, updates, rulings, and documents related to their rulemaking proceedings); Press Release, COGCC, COGCC Initially Approves Rules for Protecting Wildlife from Impacts of Oil and Gas Development (Sept. 24, 2008). [↑](#footnote-ref-163)
163. 163 Letter from Dave Neslin, Acting Director, COGCC, to Oil and Gas Commissioners (Mar. 31, 2008), available at [*http://www.oil-gas.state.****co****.us/RuleMaking/RulesLegislation/NeslinLtrDraftRules033108.pdf*](http://www.oil-gas.state.co.us/RuleMaking/RulesLegislation/NeslinLtrDraftRules033108.pdf). [↑](#footnote-ref-164)
164. 164 WRA Scoping Comments, supra note 19, at 20-21. [↑](#footnote-ref-165)
165. 165 ***Colo.*** Const. art. XVI, § 6. [↑](#footnote-ref-166)
166. 166 Joseph L. Sax, et al., Legal Control of Water Resources, at 154-56 (4th ed. 2006). The beneficial use argument would go to wastefulness and since findings of wastefulness based on quantity generally have to do with egregious inefficiencies and are thus unlikely in the case of new technology, and those based on type look to historical obsolescence, these claims would likely fail. See, e.g., [*N.* ***Colo.*** *Water Conservancy Dist. v. Chevron Shale Oil* ***Co****., 986 P.2d 918 (****Colo.*** *1999)*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3XD9-D0F0-0039-4550-00000-00&context=1516831) (extended water rights of oil shale operation that was lying dormant for more than twenty years). [↑](#footnote-ref-167)
167. 167 Sax, supra note 166, at 247. [↑](#footnote-ref-168)
168. 168 [***Colo.*** *Rev. Stat. § 37-92-301(4)(a)(I)*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:61P5-WY01-DYDC-J3FY-00000-00&context=1516831) (2008). [↑](#footnote-ref-169)
169. 169 Sax, supra note 166, at 800-01. [↑](#footnote-ref-170)
170. 170 OSTS FPEIS, supra note 60, at 4-33 (estimating that "surface retort plants with capacities of 18 million bbl per year (or 50,000 bbl per day) could consume 6,100 to 9,400 ac-ft of water per year"). [↑](#footnote-ref-171)
171. 171 Sax, supra note 166, at 226-27. [↑](#footnote-ref-172)
172. 172 See generally [*Nat'l Audubon Soc'y v. Super. Ct., 658 P.2d 709, 727 (Cal. 1983)*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3RX6-F0N0-003D-J1V1-00000-00&context=1516831) (en banc) (commonly referred to as "The Mono Lake Case"). [↑](#footnote-ref-173)
173. 173 [*42 U.S.C. § 15927*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SHT-0732-D6RV-H2K2-00000-00&context=1516831)(r). [↑](#footnote-ref-174)
174. 174 Ute Energy Home Page, [*http://uteenergy.com*](http://uteenergy.com). As stipulation to the transfer of the 80,000 acres, a percentage of the revenue will go to the Department of Energy in order to pay for the Atlas uranium mine cleanup near Moab, Utah. CNN, U.S. Land Transfer to Utah Tribe Would be Largest in 100 Years, [*http://archives.cnn.com/2000/US/*](http://archives.cnn.com/2000/US/) 01/14/indian.lands/ (last visited Oct. 13, 2008). [↑](#footnote-ref-175)
175. 175 [*25 U.S.C. §§2101*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8S9D-WBG2-D6RV-H4YS-00000-00&context=1516831)-2108 (2006). [↑](#footnote-ref-176)
176. 176 Tracey A. LeBeau, Reclaiming Reservation Infrastructure: Regulatory and Economic Opportunities for Tribal Development, [*12 Stan. L. & Pol'y Rev. 237, 242 (2001).*](https://advance.lexis.com/api/document?collection=analytical-materials&id=urn:contentItem:43RD-J040-00CV-V1FN-00000-00&context=1516831) [↑](#footnote-ref-177)
177. 177 Id. [↑](#footnote-ref-178)
178. 178 David Getches, Charles F. Wilkinson & Robert A. Williams, Jr., Federal Indian Law 679, 689-90 (5th ed. 2007). [↑](#footnote-ref-179)
179. 179 Ianthe Jeanne Dugan, Business Empire Transforms Life for ***Colorado*** Ute Tribe, Wall St. J., June 13, 2003, at A1. [↑](#footnote-ref-180)
180. 180 Brian Newsome, Ute Tribes Strike Oil Deal, Durango Herald, June 9, 2002. [↑](#footnote-ref-181)
181. 181 [*Winters v. United States, 207 U.S. 564, 576 (1908).*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3S4X-9WV0-003B-H241-00000-00&context=1516831) [↑](#footnote-ref-182)
182. 182 Southern Utah Wilderness Alliance: Who We Are, [*http://www.suwa.org/site/*](http://www.suwa.org/site/) PageServer?pagename=about WhoWeAre (last visited Oct. 5, 2008). [↑](#footnote-ref-183)
183. 183 See Charles Wilkinson, Fire on the Plateau: Conflict and Endurance in the American Southwest 323-24 (1999). [↑](#footnote-ref-184)
184. 184 Coggins et al., supra note 38, at 1056. [↑](#footnote-ref-185)
185. 185 See Wilkinson, Fire, supra note 183, at 323. [↑](#footnote-ref-186)
186. 186 Id.; see Southern Utah Wilderness Alliance: Who We Are, [*http://www.suwa.org/site/PageServer?pagename=about*](http://www.suwa.org/site/PageServer?pagename=about) WhoWeAre (last visited Oct. 5, 2008). [↑](#footnote-ref-187)
187. 187 Wilkinson, Fire, supra note 183, at 323-24; see generally Utah Wilderness Coalition, Wilderness at the Edge: A Citizen Proposal to Protect Utah's Canyons and Deserts (1990). [↑](#footnote-ref-188)
188. 188 Utah Wilderness Coalition (UWC), About the UWC, [*http://www.uwcoalition.org/about/index.html*](http://www.uwcoalition.org/about/index.html). [↑](#footnote-ref-189)
189. 189 See Wilkinson, Fire, supra note 183, at 324. [↑](#footnote-ref-190)
190. 190 Utah Wilderness Coalition, Frequently Asked Questions: The Citizens' Proposal for Wilderness in Utah, [*http://www.uwcoalition.org/faq/proposal.html*](http://www.uwcoalition.org/faq/proposal.html) (last visited Oct. 14, 2008). [↑](#footnote-ref-191)
191. 191 Jerry Spangler, Red Rock Wilderness Act is Again Under Scrutiny in Congress, Deseret Morning News, Apr. 23, 2005, available at [*http://deseretnews.com/article/1,5143,600128599,00.html*](http://deseretnews.com/article/1,5143,600128599,00.html). [↑](#footnote-ref-192)
192. 192 Id.; Wilkinson, Fire, supra note 183, at 324. [↑](#footnote-ref-193)
193. 193 Alexandra Fuller, Boomtown Blues, New Yorker, Feb. 5, 2007. [↑](#footnote-ref-194)
194. 194 Coggins et al., supra note 38, at 674; see [*Wyo. Stat. Ann. § 30-5-402*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:56VF-H1P1-73WF-64NM-00000-00&context=1516831). [↑](#footnote-ref-195)
195. 195 Landowners Association of Wyoming, Oil and Gas Drilling on Split Estate Lands, [*http://www.wyominglandowners.org/splitestates/index.php*](http://www.wyominglandowners.org/splitestates/index.php) (last visited Oct. 14, 2008). [↑](#footnote-ref-196)
196. 196 Coggins et al., supra note 38, at 674. [↑](#footnote-ref-197)
197. 197 See [*Wyo. Stat. Ann. § 30-5-402*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:56VF-H1P1-73WF-64NM-00000-00&context=1516831). [↑](#footnote-ref-198)
198. 198 Alexandra Klass, The Growing Influence of Tort and Property Law on Natural Resources Law: Case studies of Coal Bed Methane Development and Geologic Carbon Sequestration, 8-11 (2007), available at [*http://www.****colorado****.edu/law/centers/nrlc/summerconference/paper*](http://www.colorado.edu/law/centers/nrlc/summerconference/paper) s/Klass.Session1.pdf; see, eg.,[*Paxton Res. v. Brannaman, 95 P.3d 796 (Wyo. 2004).*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:4D32-WHW0-0039-40H4-00000-00&context=1516831) [↑](#footnote-ref-199)
199. 199 See Klass, supra note 198, at 8-11. [↑](#footnote-ref-200)
200. 200 See id. [↑](#footnote-ref-201)
201. 201 Todd Hartman, House OKs Roan Plateau Drilling Ban, Rocky Mountain News, Aug. 6, 2007. [↑](#footnote-ref-202)
202. 202 Todd Hartman, House Bill Sheds Roan Drilling Limits, Rocky Mountain News, Dec. 6, 2007. [↑](#footnote-ref-203)
203. 203 Mr. Salazar was since appointed United States Secretary of the Interior by President Obama. [↑](#footnote-ref-204)
204. 204 Steve Lipsher, BLM Rejects Roan Plateau Safeguards, Denver Post, Mar. 14, 2008, available at [*http://www.denverpost.com/newsheadlines/ci*](http://www.denverpost.com/newsheadlines/ci) 8567583. [↑](#footnote-ref-205)
205. 205 Press Release, Office of Gov. Bill Ritter, Jr., Gov. Ritter Statement on Department of Interior Roan Decision (Mar. 13, 2008), available at [*http://www.****colorado****.gov/cs/Satellite/GovRitter/GOVR/1205189518590*](http://www.colorado.gov/cs/Satellite/GovRitter/GOVR/1205189518590). [↑](#footnote-ref-206)
206. 206 Press Release, Office of Gov. Bill Ritter, Jr., Gov. Ritter Statement on BLM Decision to Issue Roan Leases in August (June 9, 2008), available at [*http://www.****colorado****.gov/cs/Satellite/GovRitter/GOVR/121302*](http://www.colorado.gov/cs/Satellite/GovRitter/GOVR/121302) 5230663. [↑](#footnote-ref-207)
207. 207 Associated Press, Feds Defend Drilling Plan for Roan Plateau, Denver Post, Sept. 19, 2008. [↑](#footnote-ref-208)
208. 208 [*30 U.S.C. § 226*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:666W-N4T3-CGX8-03MX-00000-00&context=1516831)(g) (2006); see, e.g., [*Wyo. Outdoor Council v. Bosworth, 284 F.Supp.2d 81, 83 (D.D.C. 2003).*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:49NH-V260-0038-Y1P4-00000-00&context=1516831) [↑](#footnote-ref-209)
209. 209 See [*30 U.S.C. § 226.*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:666W-N4T3-CGX8-03MX-00000-00&context=1516831) [↑](#footnote-ref-210)
210. 210 See FPEIS discussion, supra Part II.C, at 19-20. [↑](#footnote-ref-211)
211. 211 [*30 U.S.C. § 226*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:666W-N4T3-CGX8-03MX-00000-00&context=1516831)(e). [↑](#footnote-ref-212)
212. 212 Two examples of surface owners accommodation acts are ***Colorado*** Landowner Protection Act, H.B. 07-1252, 65th Leg., (***Colo.*** 2007) and Wyoming Surface Owner Accommodation Act of 2005, [*Wyo. Stat. Ann. § 30-5-401*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:56VF-H1P1-73WF-64NJ-00000-00&context=1516831) (2008). See also supra Part III.A.2, at 33-34. [↑](#footnote-ref-213)
213. 213 Oil Shale Reserve Fund Revenue Disposition Act, S. Res. 1517, 110th Cong. (2007). [↑](#footnote-ref-214)
214. 214 H.R. 2643, 110th Cong. § 606 (as passed by House, June 27, 2007). [↑](#footnote-ref-215)
215. 215 Energy Policy Reform and Revitalization Act of 2007. H.R. 2337, 110th Cong. § 104 (2007). [↑](#footnote-ref-216)
216. 216 Id. See Press Release, Office of Gov. Bill Ritter, Jr., Gov. Ritter to Feds: Act Responsibly on Oil Shale (June 12, 2007), available at [*http://www.****colorado****.gov/cs/Satellite?c=*](http://www.colorado.gov/cs/Satellite?c=) Page&cid=1187808688144&pagename=GovRitter%2FGOVRLayout. [↑](#footnote-ref-217)
217. 217 Mark Harden & Cathy Proctor, Senate Approves DNC Funds, Oil-shale Delay, Denver Bus. Journal, Dec, 19, 2007, available at [*http://www.bizjournals.com/denver/stories/2007/12/17/daily29.html*](http://www.bizjournals.com/denver/stories/2007/12/17/daily29.html). [↑](#footnote-ref-218)
218. 218 Jane Danowitz & Richard Wiles, Mining Our Treasures, Wash. Post, Aug. 27, 2007 at A13. [↑](#footnote-ref-219)
219. 219 Hardrock Mining and Reclamation Act of 2007, H.R. 2262, 110th Cong. (2007), [*http://www.opencongress.org/bill/110-h2262/show*](http://www.opencongress.org/bill/110-h2262/show) (last visited Nov. 19, 2008). [↑](#footnote-ref-220)
220. 220 Hardrock Mining and Reclamation Act of 2007 at § 102(a)(1), available at [*http://www.govtrack.us/congress/billtext.xpd?bill=h110-2262&page*](http://www.govtrack.us/congress/billtext.xpd?bill=h110-2262&page). [↑](#footnote-ref-221)
221. 221 Id. § 202, available at [*http://www.govtrack.us/congress/billtext.xpd?bill=h110-2262&page*](http://www.govtrack.us/congress/billtext.xpd?bill=h110-2262&page). [↑](#footnote-ref-222)
222. 222 [*Andrus v. Shell Oil* ***Co****., 446 U.S. 657, 672-73 (1980).*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3S4X-76W0-003B-S1CF-00000-00&context=1516831) [↑](#footnote-ref-223)
223. 223 See [*United States v. Coleman, 390 U.S. 599 (1968);*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3S4X-FKB0-003B-S0WV-00000-00&context=1516831) [*South Dakota v. Andrus, 614 F.2d 1190 (1980).*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3S4X-K920-0039-W4Y5-00000-00&context=1516831) [↑](#footnote-ref-224)
224. 224 Katherine L. Henry, Coal Mining in the United States: SMCRA's Successful Blueprint, 11-WIN Nat. Resources & Env't 7 (1997). [↑](#footnote-ref-225)
225. 225 Surface Mining Control and Reclamation Act of 1977, [*30 U.S.C. § 1271*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8S9D-WCR2-8T6X-73NN-00000-00&context=1516831) (2006). [↑](#footnote-ref-226)
226. 226 Coggins et al., supra note 38, at 643-44. [↑](#footnote-ref-227)
227. 227 Henry, supra note 224, at 8. [↑](#footnote-ref-228)
228. 228 See discussions about Secretary of Interior's discretion, supra Part II.B.1, II.C, at 17, 20. [↑](#footnote-ref-229)
229. 229 Utah, ***Colorado***, and Wyoming have all recently proposed withdrawing state lands through national congressional designation. See Western Resource Advocates, WRA: Lands, [*http://www.westernresourceadvocates.org/land/index.php*](http://www.westernresourceadvocates.org/land/index.php) (last visited Oct. 7, 2008). [↑](#footnote-ref-230)
230. 230 [*United States v. Gettysburg Elec. Ry.* ***Co****., 160 U.S. 668, 683 (1896).*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3S4X-DTX0-003B-H2C7-00000-00&context=1516831) [↑](#footnote-ref-231)
231. 231 See Mark Jaffe, High Court to Hear Cyanide Mining Case, Denver Post, Sept. 7, 2008. [↑](#footnote-ref-232)
232. 232 See High Country Citizens' Alliance, Save Red Lady (Mt. Emmons), [*http://www.hccaonline.org/*](http://www.hccaonline.org/) page.cfm?pageid=2035 (last visited Oct. 7, 2008). [↑](#footnote-ref-233)
233. 233 See [*S.D. Mining Ass'n v. Lawrence County, 977 F. Supp. 1396 (D.S.D. 1997)*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3RHM-PC50-0038-Y22R-00000-00&context=1516831) (holding that local regulation is permissible under the Mining Act insofar as it does not conflict with the federal law). See also Oil Dri Corp. v. Washoe County, Civ. No. 02-0186 (D. Nev. Feb. 22, 2003). [↑](#footnote-ref-234)
234. 234 10 U.S.C. § 7439 (2006) (Congressional history of Transfer Act can be found at 147 CongRec H10179-08; H.R. 2187; 107th Cong, 1st Session, Dec. 18, 2001). Naval Oil Shale Reserves 1 and 3 include the area known as the Anvil Points site, which was recently contracted to be cleaned up for $ 15.4 million. Press Release, BLM, BLM Awards Anvil Points Clean-Up Contract (July 29, 2008), available at [*http://www.blm.gov/****co****/st/en/BLM*](http://www.blm.gov/co/st/en/BLM) Information/ newsroom/2008/blm news release .html. Press Release, Offices of Sen. Salazar and Sen. Allard, ***Colo.*** Senators Request Update on Cleanup of Anvil Points & Info Related to the Roan Plateau Planning Area (Oct. 29, 2007) (quoting full text of letter sent to Secretaries of Energy and Interior), available at [*http://salazar.senate.gov/news/releases/071029anvilpointsjnt.htm*](http://salazar.senate.gov/news/releases/071029anvilpointsjnt.htm). [↑](#footnote-ref-235)
235. 235 Press Release, Office of Gov. Bill Ritter, Jr., Gov. Ritter Statement on Anvil Points (Aug. 8, 2008), available at [*http://www.****colorado****.gov/cs/Satellite/GovRitter/GOVR/1218190495321*](http://www.colorado.gov/cs/Satellite/GovRitter/GOVR/1218190495321). [↑](#footnote-ref-236)
236. 236 Comprehensive Environmental Response, Compensation, and Liability Act of 1980, [*42 U.S.C. § 9601*](https://advance.lexis.com/api/document?collection=statutes-legislation&id=urn:contentItem:8SHT-0722-D6RV-H52W-00000-00&context=1516831) (Supp. V 2005). [↑](#footnote-ref-237)
237. 237 See Sarah Krakoff, Prof. of Law, University of ***Colorado*** Law School 33rd Annual Austin W. Scott Lecture, Parenting the Planet: Environmental and Other Ethics in the Face of Potential Tragedy, Nov. 14, 2007. [↑](#footnote-ref-238)
238. 238 Populations: Green ***River***, Wyoming (12,000), Vernal Utah (8,000), Grand Junction (42,000), and Rifle (7,000) and Parachute (1,000). U.S. Census Bureau, Your Gateway to Census 2000, [*http://www.census.gov/main/www/cen2000.html*](http://www.census.gov/main/www/cen2000.html) (last visited Oct. 14, 2008). [↑](#footnote-ref-239)
239. 239 See e.g., [*Massachusetts v. EPA, 549 U.S. 497 (2007).*](https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:4ND6-TF50-004B-Y00C-00000-00&context=1516831) [↑](#footnote-ref-240)
240. 240 Wallace Stegner, Angle of Repose 382 (Penguin Books 1992) (1971). [↑](#footnote-ref-241)
241. 241 Mary Austin, The Land of Little Rain, in Stories from the Country of Lost Borders 1, 71 (Marjorie Pryse ed. 1987) (1903). [↑](#footnote-ref-242)