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# Dynamo in the Desert: Energy Development and Environmental Contestation in the San Juan Basin, 1960-1985

S. Andrew Wakefield

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**DYNAMO IN THE DESERT:  
ENERGY DEVELOPMENT AND ENVIRONMENTAL  
CONTESTATION IN THE SAN JUAN BASIN, 1960-1985**

**by**

**S. ANDREW WAKEFIELD**

B.S., American Studies, Utah State University, 2002

THESIS

Submitted in Partial Fulfillment of the  
Requirements for the Degree of

**Master of Arts  
History**

The University of New Mexico  
Albuquerque, New Mexico

**May, 2011**

## **DEDICATION**

For marginalized and exploited places and  
For those who care about these places

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This thesis is the result of over two year's worth of work, effort, and input of several individuals. Foremost, I would like to acknowledge the members of my committee. Virginia Scharff agreed to chair this thesis, and she proved central to the completion of this project by keeping my focus on finishing this project when I felt stuck in the myriad details of a subject as large as energy development. Without Virginia, I feel that I would have never completed this project, and I express my deepest appreciation to her. I owe much gratitude for Samuel Truett who helped me keep this thesis centered on the theme of environmental contestation when it might have otherwise unraveled. Sam gave the first and second chapters, which were written for his U.S. Environmental History seminar, a particularly close and critical reading. Durwood Ball has stood by this thesis from its beginning when I undertook an exploratory version of this project as a paper for his Western American seminar. Durwood helped me conceptualize a topic that looks at multiple social groups and their different perspectives of energy development and its environmental consequences. Durwood also edited the entire thesis manuscript, making my job of revising it much easier. Beyond their help with this thesis, each of these individuals offered interesting courses and seminars, opened their offices to me on numerous occasions, and provided me with key advisement—all of which was critical to my completion of this thesis and degree. I feel fortunate to have had three people on my committee who all acted as central advisors to me throughout this thesis.

My general experience of studying environmental and western American history at the University of New Mexico also has been enriched by other professors who are part of the University of New Mexico's outstanding History program. Cathleen Cahill has taught engaging courses on the twentieth century western American history and a seminar that blended environmental history with gender studies. And Elizabeth Hutchinson taught a methods seminar in which she guided me through the proposal-writing process for a large research undertaking. Her class gave me opportunity to think over this project.

The Department of History helped me through this process with financial support and a professional and kind staff. I was fortunate enough to have a graduate assistantship for two years, which provided much needed income. I learned much from working as a graduate assistant under with Professor Sarah Cornell, Ferenc Szasz, and graduate instructor Shawn Wienmann. Professor Ferenc Szasz deserves special mention as he not only taught me a great deal about how World War II proved to be a pivotal role in our country's history, but also that the simple pursuit of being a good person is more important than some of the predominating values in academia. Professor Szasz's kindness made a great impression upon me and I feel lucky to have worked with him before his untimely passing. Yolanda Martinez and Helen Ferguson proved invaluable in their guidance and help with navigating the bureaucratic waters of graduate school by keeping me on task with various deadlines and forms that needed to be filled out. I depended on Yolanda and Helen perhaps more than others because I finished this

project in Arizona and often mailed, emailed, and faxed documents that needed to be delivered in a timely manner. I truly appreciate everything they have done for me.

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**ABSTRACT**

This thesis examines coal-energy development in the San Juan Basin, which is located in the culturally rich and environmentally diverse Four Corners region. Between 1960 and 1985 intensive coal-energy development—in the form of strip mines and power plants—took place in the western portion of the San Juan Basin. This period saw the enactment of major environmental legislation and the rise of the modern environmental movement. My thesis specifically focuses on how this development unleashed environmental damage upon the region’s land, water, and air. Beyond examining environmental destruction, my thesis explores how different groups came into conflict over coal-energy development.

The groups that most actively contested the development of coal-energy were Navajo tribal leaders, local Navajo communities, environmental organizations, and energy and mining corporations. I make the argument that each group built a discourse around energy development, environmental legislation, and the natural environment in ways that conformed to each group’s particular interests. The mere specter of energy development unleashed intergroup conflict even when plans for surface mines, coal gasification, and power plant projects did not materialize. Failed energy projects still

resulted in social and landscape changes, such as intergroup conflict, factionalizing of Navajo political and social structures, changes in legal control over land, and the designation of wilderness areas within coal regions.

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## INTRODUCTION

Driving back-and-forth between Albuquerque where I lived and my hometown in Utah, I often passed through the Four Corners area. As I followed the road along the San Juan River floodplain, I could clearly see plumes of smoke rising from near Shiprock where the Four Corners Power Plant and the San Juan Power Plant are located. Today, I live in northeastern Arizona and commute to work about an hour's driving distance to a nearby town. As I make this early morning drive, I see sunrises breaking across the far eastern horizon, muted pinks and purples and yellows spreading across a landscape defined by desert grasslands, rounded basalt bulges, and high plateaus covered with juniper and pinon trees in the lower elevations and ponderosa forests in higher areas. To the north, I also see the smokestacks rising from the desert floor. These industrial profiles mark the locations of the Springerville and Coronado Power Plants. And if I drive to the west on Interstate 40, toward Flagstaff, I pass the high smokestacks of the Cholla Power Plant near Joseph City.

These power plants—those near Shiprock and those in Arizona—are common in that the coal that they burn comes from the San Juan Basin, an area that covers much of northwestern New Mexico. They are also similar in that their power is transmitted to the cities in each of those states and beyond. And they are alike in this: the size of the power plants provides a startling juxtaposition to their human and natural hinterland settings.

This thesis explores the nature of energy development in the San Juan Basin hinterland between 1960 and 1985. This period that spans the beginning of large-scale

coal energy development to the time when it became fully established within the region. This time period is also when major environmental legislation occurred and when the modern environmental movement fully emerged into the American political and social scene. This story details how coal energy damaged the San Juan Basin's land, water, and air. Beyond merely tracing the industrial transformations of this place, however, this thesis focuses on how particular groups—corporations, Navajo activist groups and local community organizations, and environmental groups—advocated for or contested this energy development. Each of these groups, I argue, developed distinctive discourses and rationales around energy development, environmental legislation, and the natural environment in ways that conformed to their own interests in—or opposition toward—energy development.<sup>1</sup>

Much of this story focuses on how corporations built a discourse and a science in an attempt to legitimize their industry. Although corporate discourses regarding energy development changed over time, their principal rhetorical foundation rested on the notion of economic prosperity—which, corporations claimed, their industries would bring not only to local communities but also to the larger nation. This corporate discourse that conflated energy development with economic prosperity holds consistently throughout this story and has much deeper antecedents in the culture of

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<sup>1</sup> My focus on group contestation over industrial development is most similar to Wendy Espeland's *The Struggle for Water: Politics, Rationality, and Identity in the American Southwest* (Chicago: University of Chicago Press, 1998). She shows how the Bureau of Reclamation and Yavapai Apaches contested this proposed Arizona dam in ways that revealed distinct environmental and social values not only of each group but also between the older and newer Bureau of Reclamation federal scientists. My conception of how cultural values and meanings are ascribed to the environment is also informed by Kathryn Morse's *The Nature of Gold: An Environmental History of the Klondike Gold Rush* (Seattle: University of Washington Press, 2003).

mining industries.<sup>2</sup> Energy corporations, however, acted opportunistically and found new contexts in which they built their legitimizing discourse around energy development. Energy companies particularly pointed toward ever-expanding post-World War II energy consumption and the energy crisis of the 1970s to justify their industry. It was not their own interest in profiting from energy development, they claimed, but rather the energy market necessitated their services. In response to environmental regulations, corporations developed a particular discourse around science and technology, arguing that their industries not only could meet these regulations but could actually improve the environment. On public lands, corporations emphasized their rights to lease land, with the Mineral Leasing Act of 1920 being particularly important to these corporations.

Navajos who opposed energy development did so for multiple reasons. In part, Navajos opposed to energy development—whether at the tribal or local level—viewed energy development as another form of outsiders colonizing their ancestral homeland. Indian activists produced perhaps the most vocal opposition to coal energy development, and their activism became particularly pronounced in the mid-1970s when the Navajo tribal government and corporations planned to build coal gasification

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<sup>2</sup>Duane A. Smith, *Mining America: The Industry and the Environment, 1800-1980* (Lawrence: University Press of Kansas, 1987). In this book, Smith traces how the mining industry's attitudes and values—such as profit motive, focus on economic progress, trust in technological progress, belief in unlimited resources, and disregard for the environment—developed and remained consistent throughout the nineteenth and twentieth centuries. Smith places these continuities within contexts of change by also tracing how the mining industry was challenged and altered by the conservation movement of the early 1900s and the more pronounced environmental movement of the 1960s. I pay close attention to how mining corporations held an unwavering discourse celebrating economic progress and technological advancement to legitimize their industries, while they also found new contexts, such as the energy crises and growing energy needs, in which they legitimized their industries.

plants on the eastern portion of the Navajo reservation. Indian activists challenged corporate and governmental scientific studies that modeled how coal gasification would affect energy markets, water consumption, air pollution, reclamation feasibility, and social impacts. In this way, they employed conflicting scientific knowledge as a method of resistance to large-scale energy development. And whereas energy corporations argued that intensive energy development and environmental protection could be achieved together, Indian activists claimed that these two conflicting agendas were mutually exclusive.<sup>3</sup>

Along with Indian activists, local Navajo communities often opposed energy development. By local communities, I mean rural communities located in the actual places that corporations sought out for coal strip mining and for building power plants. This opposition was largely due to the fact that many of these communities still depended on agricultural and livestock economies, and strip mining directly threatened their own form of land use. Like Indian activists, local Navajo communities also distrusted scientific studies, especially studies claiming that strip mines could be reclaimed, re-vegetated, and restored to pre-mining grazing land. Many tribal leaders,

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<sup>3</sup> The Native American group most active in opposing energy development in the region was the National Indian Youth Council, which I discuss in detail in chapter 2. This group was part of a much larger Red Power movement that developed over the 1960s and 1970s. See Bradley Glenn Shreve, "Red Power Rising: The National Indian Youth Council and the Origins of Intertribal Activism," (Ph.D. diss., University of New Mexico, 2007); p. 266-67. Shreve discusses the activism focus of the NIYC from the late 1960s to the 1970s. NIYC's challenging of science as a means to oppose energy development is a tactic that environmental activists developed. See, for example, Mark Harvey, *A Symbol of Wilderness: Echo Park and the American Conservation Movement*, (Albuquerque: University of New Mexico Press, 1994), chapt. 7. This chapter examines how environmental activists, during the early 1950s, engaged with Bureau of Reclamation scientists to challenge the need to build Echo Park Dam in Dinosaur National Park. Winona LaDuke is a good example of someone who has been active in both Indian movements and environmental movements, especially the environmental justice movement, and the overlapping of environmental activism and Indian activism since the 1970s holds rich possibilities for further research.



however, supported energy development as a viable option for economic development on the reservation. My findings in this research clearly show that energy development exacerbated factionalizing within the Navajo tribe—particularly between tribal leaders and local communities. This factionalizing is most evident in the coal-gasification-development plans that the tribe and corporations considered during the 1970s.

Although environmental groups began addressing coal-energy development by the early 1970s, their interest in this issue and the San Juan Basin region seems to have been only minimal throughout the decade. Especially when considering the organization and effort of the Indian activists who opposed coal gasification on the reservation, environmental activism, with a few exceptions, paled in comparison. However, environmental groups became very active in the region during the early 1980s when energy development was planned for public lands in the Chaco-Bisti area. Their intensified interest in the region can be attributed to multiple factors. In general, the environmental movement grew rapidly over the 1970s and therefore became increasingly involved in various issues. The Reagan administration and that president's appointment of James Watt as Secretary of Interior galvanized the movement. And, specific to the San Juan Basin region, large-scale coal development was planned for public lands near wilderness areas that served as a magnet for environmental groups. Whereas Indian activists formed the major component of opposition to coal-gasification plans, environmental groups formed the most powerful oppositional force to coal development in the Chaco-Bisti region (located right next to where coal-gasification plants were proposed, but off the Navajo Reservation) only five years later. This

reflects how environmental groups prioritized their efforts around public-land issues whereas Indian activists focused their efforts on reservation lands—and also reflects the relative strength of Indian activist groups and environmental groups at these different time period.<sup>4</sup>

Between the mid-1970s and the early 1980s, environmental groups changed their strategies—and rationales—for opposing energy development. In their opposition to coal gasification during the mid-1970s, they primarily focused on environmental issues: water consumption, air pollution, and mining reclamation. However, the Sierra Club also used the rationale that coal gasification development would unleash social and civil disruption because the rural communities would not be able to absorb the rush of people attracted to the region. And an environmentalist with the Southwest Research and Information Center made the precocious connection of how environmental justice issues connected to coal gasification development. With coal-energy development in Chaco-Bisti area during the early 1980s, when environmental groups became more involved in the region, their tactics shifted. They maintained their focus on environmental concerns, especially mining reclamation, but also promoted other

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<sup>4</sup> For a discussion of how the Reagan administration and the Sagebrush Rebellion attacked environmentalists' values but also mobilized environmental activism, see C. Brant Short, *Ronald Reagan and the Public Lands: Conservation Debate, 1979-1984*, The Environmental History Series, no. 10 (College Station: Texas A&M University Press, 1989). For a good sampling of emerging scholars who develop place-specific case studies of environmental activism throughout American history, see Michael Egan and Jeff Crane, eds., *Natural Protest: Essays on the History of American Environmentalism* (New York: Routledge Taylor and Francis Group, 2009). These essays reveal that although larger trends of environmental activism are found throughout history, there is no single environmental movement and that environmental activism is best studied on case-by-case studies that reveal differing tactics and interests—and great variability—within larger environmental movements. In part, my study shows how Indian activists, local Navajo communities, and environmental groups held both differing and overlapping interests in opposing energy development and how these multiple interests differed in even nearby locales and even close time periods.

qualities of the landscape as means to oppose coal development. These values included aesthetic beauty, scientific study (geological formations and paleontological sites), cultural heritage (both living Navajos who used the land and Native American archaeological sites), recreation, and wilderness. Environmental groups also made a much more concerted effort to align their interests in environmental preservation with the interests of local Navajos who opposed coal mining. But environmental groups most focused on how wilderness designation conflicted with energy development as a means for contesting coal mines and power plants. And this rather myopic focus centered much of their energies on the few wilderness study areas within the San Juan Basin while leaving much of the greater region omitted from close scrutiny and concerted contestation.

As will become apparent in this story, tribal and federal governments played a major role in energy development. It would be impossible to tell this story without addressing the power that these political actors played in directing energy development. I do not treat state power in the same way that I treat the other groups—that is, I do not closely analyze the rationales that state powers developed for energy development. Instead, I treat state power as an underlying, inescapable, and fundamental entity in energy development: state power set many of the parameters for energy development, such as whether or not to lease land and environmental regulations—which corporate, Navajo, and environmental groups then contested in ways that aligned with their own interests. I also look at how corporations, Navajos, and environmentalists either

aligned with or were marginalized by the interests of tribal, federal, state, or local governments.

While this study looks at environmental changes that coal-energy development unleashed within the San Juan Basin, the actual implementation of development was not necessary to create social contestation or landscape changes. Indeed, energy development never occurred—at least up until today—in two of the case studies that I address: coal gasification projects on the reservation and coal mining and a new power plant in the Chaco-Bisti area, none of which ever materialized. Nonetheless, these energy development plans created conflict as environmental groups and certain segments of Navajo society resisted corporations that sought coal resources and nearby locations in the region for building power plants. Also, planned forms of energy development that never came to fruition did create changes in the landscape—although less evident than strip mines and power plants. Planned energy development led the Navajo tribal and the federal government to issue leases to corporations and therefore legal title to land and resources; coal energy development in these areas remains a real possibility today as it did in the past because of these leases. Indeed, coal mining on Utah International’s Navajo Mine intensified during the 1970s to feed the San Juan Power Plant rather than the coal gasification power plants planned for this same time period. And, as we will see in the case of the Chaco-Bisti region, the only officially designated wilderness areas found within the San Juan Basin were born out of plans for coal development in the region.

To construct this history I draw from environmental assessment (EAs) and environmental impact statements (EISs), congressional hearings, and archival collections. EAs and EISs form an important source base for this study because these documents not only detail various energy development projects but also contain written comments from various groups. These documents, then, can be used to not only trace energy development itself but also the primary actors and how and why they either supported or opposed coal resource extraction or energy production. These government reports, however, are only available after 1970 as they came into being by federal mandate with the passing of the National Environmental Protection Act of 1969. EISs and EAs, however, have pitfalls in that much of the information contained within these federal documents is informed by those undertaking development (corporations) and therefore are potentially laden with biases. These reports, in their public comments sections, also primarily reproduce the voice of representative groups, such as established environmental groups, corporate executives, governmental agencies, and governmental representatives, while omitting the voices of those not holding political power. This limitation is also true of congressional records, which often represent selected individuals or groups based on the state actors who organize a particular hearing. But congressional hearings—as comment sections of EAs and EISs—retain their value in that they contain the voices of some of the most powerful actors who either advocated for or against energy development.

Corporations, Native American activists, and environmentalists have also left behind records of their activities, some of which are found in archival collections. I have

used these archive collections—in conjunction with EAs, EISs, and congressional hearings—to get a more complete understanding of these groups and their interests in energy development within the San Juan Basin. Without oral interviews (which, based on time limitations for this project, I did not do), archival materials, if they can be found, provide the best behind-the-scenes details of how these different groups operated. The problem, of course, is that very few records of the past make it into the archival records—whether government reports, congressional hearings, or institutional archives. So although I tell this story through the use of historical records, I also tell the story through my own piecing together of these disparate records—which, as with all histories, reflects to varying degrees the writer’s own partialities and biases.

Overviews of energy development have been charted at national and regional levels by other historians who specialize in environmental history and western history. The environmental historian Martin Melosi has particularly focused on energy development and the environment throughout his career. Melosi’s *Coping with Abundance: Energy and Environment in Industrial America*, which centers on national energy policies viewed through various presidential administrations, provides a broadly outlined and useful sketch of energy development from the 1820s to the 1970s.<sup>5</sup> Particularly relevant to my study, Melosi identifies the energy crises of the 1970s as a watershed in which the national ideology shifted from a perspective of energy-resource abundance to one of energy-resource scarcity. Melosi’s more recent collaborative work

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<sup>5</sup> Martin V. Melosi, *Coping with Abundance: Energy and Environment in Industrial America* (Philadelphia: Temple University Press, 1985). Also see Martin V. Melosi, “Energy and Environment in the United States: The Era of Fossil Fuels,” *Environmental History Review* 11, no. 3 (Autumn 1987): 167-188.

on energy examines Houston, Texas, to investigate how energy development and industries have affected urban environments and communities.<sup>6</sup> The urban-focused studies included in this volume, however, largely neglect the hinterlands from which energy resources are extracted—whether distant oil fields in southwestern Texas or southeastern New Mexico; offshore oil fields in the Gulf of Mexico; the numerous oil, gas, and coal fields in the Rocky Mountains West; or the energy resources found in the San Juan Basin.

At a more refined temporal and geographic scale, Paul Sabin's *Crude Politics: The California Oil Economy, 1900-1940* centers on the political economy that drives energy development and environmental change. His book examines the important role that corporations and governments—often fused into a unified corporate-governmental interest—have in creating the political and legal parameters that largely dictate policies regarding energy extraction and energy markets.<sup>7</sup> Corporate-government partnerships are particularly important to my own study, principally because energy development occurring on public lands is brokered between governmental agencies and energy corporations. While Sabin's book does not take a periphery or hinterland perspective, two earlier articles that he wrote do take such a focus.<sup>8</sup> His study of how non-native, indigenous, and Metis people negotiated energy development proposed for the

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<sup>6</sup>Martin V. Melosi and Joseph Pratt, eds., *Energy Metropolis: An Environmental History of Houston and the Gulf Coast* (Pittsburgh: University of Pittsburgh Press, 2007), 9-10.

<sup>7</sup> Paul Sabin, *Crude Politics: The California Oil Market, 1900-1940* (Berkeley: University of California Press, 2005).

<sup>8</sup> See Paul Sabin, "Voices from the Hydrocarbon Frontier: Canada's Mackenzie Valley Pipeline Inquiry (1974-1977)," *Environmental History Review* 19:1 (1995): 17-48; and Paul Sabin, "Searching for Middle Ground: Native Communities and Oil Extraction in the Northern and Central Ecuadorian Amazon, 1967-1993," *Environmental History* 3:2 (1998): 144-168.

Mackenzie Valley in Canada comes closest to the approach that I take in terms of the sources he uses (state records of comments given by individuals and interest groups regarding energy development) and the questions he asks (how energy development affected hinterland communities and environments).

Energy studies focusing on Indian reservations have generally emphasized political, legal, and social aspects of energy development. Marjane Ambler has written a history of the energy development that covers many of the tribes located throughout the American West, which is a valuable overview of the legal and political history of energy resource extraction.<sup>9</sup> Charles Wilkinson has written a study that focuses on energy development on the Colorado Plateau and his book is the best overview on the topic for this region. Wilkinson particularly focuses on coal extraction on Black Mesa—a place where both Hopi and Navajo Indians live—and how the mining of this area was the result of corrupt legal negotiations.<sup>10</sup> And Kathleen Chamberlain's history of oil development on the Navajo Reservation focuses on the Tribal government but also looks at social changes that this development unleashed.<sup>11</sup>

Studies of energy development within the San Juan Basin are relatively few in number and primarily focus on economic and industrial factors of energy development without showing how these intersect with social and environmental issues. Vicente Ximenes has written a Master's thesis that detailed the economic significance of the

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<sup>9</sup> Marjane Ambler, *Breaking the Iron Bonds: Indian Control of Energy Development* (Lawrence: University Press of Kansas, 1990).

<sup>10</sup> Charles Wilkinson, *Fire on the Plateau: Conflict and Endurance in the American Southwest* (Washington, D.C.: Island Press/Shearwater Books, 1999).

<sup>11</sup> Kathleen P. Chamberlain, *Under Sacred Ground: A History of Navajo Oil, 1922-1982* (Albuquerque: University of New Mexico Press, 2000).



natural gas industry in the San Juan Basin.<sup>12</sup> Using primarily newspaper sources, Richard Willis's Master's thesis also addresses natural gas development in the San Juan Basin.<sup>13</sup> Willis attempts to explore energy-related social and economic changes in the region, but his history only goes to the 1950s, when the region became connected to Californian and northwestern markets through the construction of gas pipelines. Howard Nickelson, Paige Christiansen, and Tom Dugan and Emery Arnold have written histories of energy development dealing with the San Juan Basin, but these people are all industry and science specialists rather than historians, and their focus is primarily on the chronology of industrial development in the area and overlooks related social and environmental issues.<sup>14</sup> David Larson's unpublished geography dissertation addresses energy development in the Southwest, but while his focus on the environmental effects of uranium mining are useful, he treats fossil-fuel extraction in an overview fashion and omits any discussion of the social and environmental ramifications that are tied to coal-energy development.<sup>15</sup>

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<sup>12</sup> Vincente T. Ximenes, "The Economic Significance of the Natural Gas Industry in New Mexico" (M.A. thesis, University of New Mexico, 1953).

<sup>13</sup> Richard H. Willis, "A Socio Economic History of the Oil and Gas Industry of the San Juan Basin, 1890-1950" (M.A. thesis, University of New Mexico, 1983).

<sup>14</sup> Howard B. Nickelson, *One Hundred Years of Coal Mining in the San Juan Basin, New Mexico*, New Mexico Bureau of Mines and Mineral Bulletin, no. 111 (Albuquerque: University of New Mexico Printing Plant, 1988); Paige W. Christiansen, *The Story of Oil in New Mexico*, New Mexico Bureau of Mines and Mineral Resources Scenic Trips to the Geologic Past, no. 14 (Albuquerque: University of New Mexico Printing Services, 1989); Tom Dugan and Emery Arnold, *Gas! Adventures into the History of One of the World's Largest Gas Fields—The San Juan Basin of New Mexico* (Farmington, New Mexico: Dugan Production Corporation, 2002).

<sup>15</sup> John David Larson, "The Energy Economy of Northwestern New Mexico with Special Reference to Uranium Development" (Ph.D. diss., University of California at Berkeley, 1994).

By far the best study of energy development in the San Juan Basin is Arthur Gomez's *Quest for the Golden Circle: The Four Corners and the Metropolitan West*.<sup>16</sup> Gomez's study emphasizes the plundered province theme: how Southwestern cities in the American West have colonized the Four Corners hinterland where Utah, Colorado, New Mexico, and Arizona meet. His book sets a solid foundation for further research and questions, such as how energy development in the San Juan Basin took shape after the 1970; how coal energy developed in the San Juan Basin; how energy development occurred on the Navajo Reservation; and whether or not energy development became contested. I touch on each of these issues in my study.

This study offers an environmental history of energy development in a distinct place—the San Juan Basin—and how three different stakeholders came to contest energy development within that place. I limit the timeframe of this study to facilitate a close examination of some of the key groups who advocated for or against energy development. The time period that I focus on—1960 to 1985—is historically telling because industrialists transformed the San Juan Basin during a quarter century that bridges key events, such as the large urban growth throughout the Southwest region, the energy crisis of the 1970s, and newly enacted environmental regulations, such as the National Environmental Protection Act of 1969. Not only did people contest energy development, but they also contested the meanings of different environmental legislation that regulated energy development and other large-scale resource development. But at its heart, this thesis links how regional urban growth drove energy

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<sup>16</sup> Arthur R. Gomez, *Quest for the Golden Circle: The Four Corners and the Metropolitan West, 1945-1970* (Albuquerque: University of New Mexico Press, 1994).

development in the San Juan Basin. And, in turn, this thesis addresses how intensive energy development fueled contestation over the environment between different groups—corporate, environmentalist, and Navajo—who built distinct rationales, both rhetorical and scientific, around their own interests in energy development.<sup>17</sup>

The geographic focus of this thesis, the San Juan Basin, is part of the Colorado Plateau physiographic province. The Colorado Plateau is generally bounded by the Wasatch Mountains and the Uintah Mountains in Utah to the north-northwest, the Rocky and San Juan Mountains of Colorado to the east-northeast, the upper reaches of the Rio Grande basin in New Mexico to the southeast, and the Mogollon Rim in Arizona to the southwest. The general environment is arid but diverse: it is defined by mountain ranges that can exceed twelve-thousand feet in height, open grassland plains, upland mesas and plateaus, ephemeral washes, and deeply entrenched canyons and rivers. The geological structure of the Colorado Plateau—defined by sedimentary deposits interrupted only by mountain ranges and basalt flows—is perhaps the most unique physical characteristic of the region. The distinctive layer-cake geology of this place is best displayed in the Grand Canyon, where more of the region’s rock strata are exposed than anywhere else. In terms of population, the Colorado Plateau is distinctly rural, with major cities—such as Phoenix, Albuquerque, and Salt Lake City—lying only along its periphery.<sup>18</sup>

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<sup>17</sup> My conception of a place-based study of the San Juan Basin is strongly influenced by Dan Flores, “Place: Thinking about Bioregional History,” in *The Natural West: Environmental History in the Great Plains and Rocky Mountain* (Norman: University of Oklahoma Press, 2001).

<sup>18</sup> For detailed information regarding the Colorado Plateau bioregional environment, see Charles van Riper III and Mark K. Sogge, eds., *The Colorado Plateau III: Integrating Research and Resources Management for Effective Conservation* (Tucson: University of Arizona Press, 2008), especially part 2. Also see Kimball T.

Following World War II, the Colorado Plateau underwent an environmental transformation intimately linked with the urban changes taking place throughout the southwestern region. Between the end of the war and 1960, urban populations in California increased by three and in Arizona by four times. Texas, New Mexico, Colorado, and Utah also logged major urban growth. While suburbs spread in places like Los Angeles, Phoenix, and Albuquerque, their lifeblood—energy—came from hinterland places like the Colorado Plateau. Mining and utility companies intensively mined the Colorado Plateau and constructed coal-burning power plants throughout this remote hinterland. This distant city-hinterland process of energy production and energy consumption divorced the everyday act of switching on the lights from these remote centers of energy extraction and production—and the consequent social and environmental costs of turning on the lights.<sup>19</sup>

It was between 1960 and the 1980s that mining and utility companies forged a city-hinterland relationship with the Colorado Plateau premised on coal energy development. Arizona utility companies placed their Cholla and Coronado power plants in central-eastern Arizona, which both burned coal from the McKinley and Lee Ranch strip mines located in the San Juan Basin. Arizona, Nevada, and California utility

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Harper, Larry L. St. Clair, Kaye H. Thorne, and Wilford M. Hess, eds., *Natural History of the Colorado Plateau and Great Basin* (Niwot: University Press of Colorado, 1994).

<sup>19</sup> The best study to examine the city-hinterland relationship and environmental change is William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W.W. Norton & Company, 1991). For an overview of the southwest region and population growth from 1960 to 1970, see Allen V. Kneese and F. Lee Brown, *The Southwest under Stress: National Resource Development Issues in a Regional Setting*, Resources for the Future (Baltimore: The Johns Hopkins University Press, 1981), chapter 2. This study states: "Despite the relative lack of industrial development, the population of the region [Utah, Colorado, New Mexico, and Arizona] has steadily increased at a rate well above the national rate itself (23.5 percent in the period from 1960 to 1970 as contrasted with a national figure of 13.3 percent for the same period." See p. 11. This study does not factor in Californian growth.

companies constructed the Navajo power plant near Page, Arizona. California and Arizona utility companies built the Mohave Plant in Nevada. Both plants burned coal from Peabody's Black Mesa strip mine in the southeastern portion of the Navajo reservation. Utah utility companies placed their Huntington Plant in central Utah, which burned coal mined from the nearby area. California and Arizona utility companies planned to build a mine-mouth power plant on the Kaiparowitez Plateau, which is located in southern Utah, but this power plant never materialized. And California, Texas, Arizona, and New Mexico utility companies constructed the Four Corners Plant and San Juan Plant in the San Juan Basin near Shiprock, New Mexico.<sup>20</sup>

By focusing our gaze upon a narrow portion of the greater Colorado Plateau, we can recover a fine-detailed history of how intensive energy consumption unleashed environmental change and conflict within a given place. The San Juan Basin sub-region is a particularly good place-based study for energy development because industrialists and utility companies intensively developed its energy resources during the latter half of

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<sup>20</sup> A listing of most of these power plants—and the utility companies that owned the power plants and the coal mines that supplied the power plants—is found in untitled power plant data tables, n.d., University of New Mexico, Center for Southwest Research (hereafter CSWR), Joseph Montoya Papers (hereafter Montoya Papers), box 47, folder 21. From these documents it is clear that Southern Edison California Company of Los Angeles and Arizona Public Service Company of Phoenix were the dominant actors in the building of power plants. Public Service Company of New Mexico, Tucson Gas and Electric Company, the Salt River Project, Nevada Power Company, Utah Power Light Company, San Diego Gas and Electric Company, and the Bureau of Reclamation (which needed power to pump water to Phoenix) were also behind the various power plants that I have listed. For information pertaining to the Cholla Power Plant, see Larsen, "The Energy Economy of Northwestern New Mexico," 46-48. For information regarding the Coronado Generating Station near St. Johns, Arizona, see Statement of Darrell E. Smith, Manager of Fuels Department for Salt River Project, in United States Congress, House, Subcommittee on Mining, Forest Management and Bonneville Power Administration, and Subcommittee on Public Lands and National Parks of the Committee on Interior and Insular Affairs, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal: Oversight Hearings before the Subcommittee on Mining, Forest Management, and Bonneville Power Administration and the Subcommittee on Public Lands and National Parks of the Committee on Interior and Insular Affairs*, 98<sup>th</sup> Congress, 1<sup>st</sup> Sess., 21 May 1983 and 7 June 1983, page 341-346.

the twentieth century. Covering most of northwestern New Mexico, the San Juan Basin is a geographic basin near the southeastern extent of the Colorado Plateau. The greater basin covers an area some six thousand square miles and is bounded by upland areas and mountains: the San Juan Ridge along its northern border; the San Pedro and Nacimiento mountains along its eastern border; Mount Taylor along its southern border; and the Chuska and Lukachukai mountains along its western border. Most of the basin drains into the San Juan River, which cuts east-west across the northern portion of this area. Physical geography, whether bioregions or physiographic provinces, is defined by blurry and transitional boundaries rather than distinct edges. This is true of the San Juan Basin's easternmost and southernmost extent, which drains into the Rio Grande watershed and Little Colorado River watershed, although these areas remain physiographically and biologically (in terms of plants and animals) similar to the rest of the basin.<sup>21</sup>

The interior San Juan Basin, the area where the Navajo Mine and the Chaco-Bisti area are found, is defined by a broad plateau dissected by multiple ephemeral drainages. The primary drainage, Chaco Wash, cuts through the center of the basin, trending west before the Chuska Mountain's easternmost slope pushes this wash abruptly northward until its confluence with the San Juan River. Over two dozen

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<sup>21</sup> For a good overview of the San Juan Basin environment, see Frances Joan Mathien, *Culture and Ecology of Chaco Canyon and the San Juan Basin*, Publications in Archaeology, 18H Chaco Canyon Studies (Sante Fe, New Mexico: National Park Service, 2005), chapter 2. I have relied on archaeological studies to describe the San Juan Basin environment because they already synthesize hydrographic, geographic, geological, and the biological environments. Also see Spencer G. Lucas, Barry S. Kues, Thomas E. Williamson, and Adrian P. Hunt, *San Juan Basin IV*, New Mexico Geological Society, 43<sup>rd</sup> Annual Field Conference (New Mexico Geological Society, 1992).

intermittent tributaries—including De-na-zin Wash and Ah-shi-sle-pah Wash—flow into Chaco Wash, which itself is dry except in periods of spring runoff and heavy rains that are particularly common in the summer months of July and August. The vegetation is defined by rainfall, elevation, and soil characteristics—making for a complex and variable tapestry of local environments and microenvironments. The vegetation of the San Juan Basin interior is dominated by sagebrush communities intermixed with grassland parks. But canyons, washes, low mesas, buttes, and badlands interrupt these dominant vegetation communities with sagebrush and grassland plains. Respective to elevation, ponderosa pine and some Douglas fir grow on the highest mesa areas, pinon and junipers cover the upland mesas, sagebrush plains mixed with grassland parks spread across the plateau, and riparian vegetation, including willow and cottonwood trees, course along the bottoms of canyons and washes. Lowlands and badlands are defined by extensive rock outcroppings and low-density vegetation—primarily saltbrush and greasewood communities—and these areas often contain many of the rare plants found in the San Juan Basin. Aridity, with rainfall averaging twenty centimeters in the central basin, is perhaps the dominating environmental condition of the San Juan Basin.<sup>22</sup>

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<sup>22</sup> Mathien, *Culture and Ecology of Chaco Canyon and the San Juan Basin*, chapter 2. R. Gwinn Vivian, Carla R. Van West, Jeffrey S. Dean, Nancy J. Akins, Mollie S. Toll, and Thomas C. Windes, “Ecology and Economy,” in *The Archaeology of Chaco Canyon: An Eleventh-Century Pueblo Regional Center*, ed. Stephen H. Lekson (Santa Fe, New Mexico: School of American Research Press, 2006). Paul J. Night, “Vegetation and Plant Communities of the San Juan Basin,” in *San Juan Basin IV*, eds. Spencer G. Lucas, Barry S. Kues, Thomas E. Williamson, and Adrian P. Hunt (New Mexico Geological Society, 1992), 34-37. Kues writes: “The badlands and lowland areas of the San Juan Basin generally support low density communities of xeric shrubs and forbs. Many of the rare plants of the basin are found in this habitat type. Dependent upon the type and consistency of the clay substrate, the [vegetation] community coverage can vary from zero to 30%.” See p. 35.

Various geological formations are found in the San Juan Basin, and many of these hold coal. Coal formed in these sedimentary strata when flooding episodes formed swamplands and deposited ancient plant life that over millions of years solidified into thin lenses of carbon rock. Mineable coal in the San Juan Basin is mainly found in two formations: the Fruitland Formation and Mesa Verde Sandstone. The Fruitland Formation runs north-south though the eastern San Juan Basin before trending east-west near the center of the basin. Most of the story that I tell takes place atop the Fruitland Formation. The other major coal-bearing formation in region, Mesa Verde Sandstone, is found in the southern portion of the San Juan Basin. All of the coal in the region is found in shallow lenses, and large-scale energy coal development centers on strip mining rather than subsurface mining. Geologists surveyed the coal and economic feasibility of mining in the San Juan Basin and published their results in 1971.<sup>23</sup>

The San Juan Basin has a rich history that is written onto the landscape itself: over twenty-thousand archaeological sites have been recorded throughout the San Juan Basin and adjacent areas. The region is home to Chaco Canyon, inhabited by Ancestral Puebloans, from at least AD 700 to 1150.<sup>24</sup> The remnants of numerous other Ancestral

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<sup>23</sup>For a lively description of how coal forms, see Thomas G. Andrews, *Killing for Coal: America's Deadliest Labor War* (Cambridge: Harvard University Press, 2008), 29-31. For a scientific description of the coal resources of the San Juan Basin, see John W. Shomaker, Edward C. Beaumont, and Frank E. Kottlowksi, eds., *Strippable Low-Sulfur Coal Resources of the San Juan Basin in New Mexico and Colorado*, State Bureau of Mines and Mineral Resources Memoir, no. 25 (Socorro: New Mexico Institute of Mining and Technology, 1971). The depositional contexts of mineable coal in the San Juan Basin are much more complex than I have described, as this study indicates. Much mineable coal is also found in the Menfee Formations, which is a subgroup of Mesa Verde Sandstone.

<sup>24</sup> See Stephen H. Lekson, ed., *The Archaeology of Chaco Canyon: An Eleventh-Century Pueblo Regional Center* (Santa Fe, New Mexico: School of American Research Press, 2006).



Puebloan communities, contemporaneous with Chaco Canyon, are found throughout the basin. Navajos have lived in the basin for at least three-hundred years.<sup>25</sup> Today, the basin is sparsely inhabited. Small cities and towns, including Shiprock, Farmington, Bloomfield, Cuba, and Gallup, surround the periphery of the basin. Low-population, rural Navajo communities—Huerfano, Nageezi, Ojo Encino, Torreon, Pueblo Pintado, Crownpoint, Lake Valley —are found throughout the interior of the basin. These rural communities are organized into Chapter Houses, the most local-level political and social institution of Navajo society.

The San Juan Basin's legal ownership is as complex as its topography. Highway 371 roughly demarcates the eastern extent of the Navajo Reservation, with lands east of this north-south highway being noncontiguous blocks and checkerboard areas of federal, Navajo, state, and private lands. About 46% of the San Juan Basin is federal land administered by the BLM; about 36% is Indian tribal land (primarily Navajo); about 7% is State of New Mexico land; about 7% is private land (including Hispano land grants); and about 4% is railroad-owned land.<sup>26</sup> The complexity of land title within the basin is compounded because surface-ownership often differs from mineral ownership, creating situations in which private- or Indian-owned lands are underlain by federally owned minerals. And land exchanges continually alter this legal landscape.

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<sup>25</sup> Albert E. Ward, Emily K. Abbink, and John R. Stein, "Ethnohistorical Chronological Basis of the Navajo Material Culture," in *Settlement and Subsistence along the Lower Chaco River*, ed. Charles A. Reher (Albuquerque: University of New Mexico Press, 1977), chapter 9. David M. Brugge, *A History of the Chaco Navajos*, Reports of the Chaco Center, no. 4 (Washington, D.C.: GPO, 1978).

<sup>26</sup> John David Larson, "The Energy Economy of Northwestern New Mexico with Special Reference to Uranium Development," 52-53.

Mining and utility companies began to develop intensively the energy resources—uranium, coal, natural gas, and oil—of the San Juan Basin after the Second World War. Large-scale coal-energy development, the focus of this thesis, began in the early 1960s when mining companies began strip mining land in the San Juan Basin to feed power-generating facilities located at or near surface mines. McKinley Mine, near Gallup in the extreme southern portion of the San Juan Basin, became the first strip mine in the area in 1962. The coal from this mine was transported to Arizona Public Service Company’s newly built Cholla Power Plant located near Joseph City, Arizona. In 1963, utility and energy companies began generating electricity from the Four Corners Power Plant, fueled by the *in situ* Navajo Mine (one of the country’s largest coal strip mines) located on the Navajo Reservation near Fruitland, New Mexico. Californian and other western utility companies expanded the Four Corners Power Plant in 1967. In 1973, Public Service Company of New Mexico (PNM) began producing energy from a third mine-powerplant complex, the San Juan Generating Station, located between Shiprock and Farmington, New Mexico. Once operational, this third power plant produced up to 80% of New Mexico’s electricity, and Tucson Electric and Gas Company directed the remainder to Tucson. All these power plants generated large quantities of electricity that fed the energy grid throughout the Southwest.<sup>27</sup>

I do not attempt to cover all coal-energy development that occurred within the San Juan Basin between 1960 and 1985. Instead, I look at three different case studies that take place within two distinct locales, one on the Navajo reservation and one

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<sup>27</sup> Larsen, “The Energy Economy of Northwestern New Mexico,” 44-50.

located to the immediate east of the Navajo reservation. I have broken this thesis into two parts and a total of four chapters that are generally arranged chronologically as well as thematically. The first part addresses energy development on the eastern portion of the Navajo reservation. The second part examines energy development on public lands located in the same area of the San Juan Basin as the first part, but just off the reservation.

Chapter 1 is a case study of coal energy development on the eastern Navajo Reservation that began in the early 1960s and rapidly expanded until the early 1970s. Specifically, I look at how mining and utility corporations acquired large land leases for strip mining and for building the Four Corners Power Plant. I generally trace how companies either developed or planned to develop coal in this region as well as the environmental transformations that this development unleashed. In looking at environmental transformations, my primary focus is on how the legal title to the land changes, how the surface of the land is destroyed by strip mining, how coal electricity generation consumed and polluted water, and how coal electricity generation damaged the air. Beyond tracing these environmental changes, I examine how corporate executives and scientists legitimized their industries by employing rhetoric rooted in economic progress and by claiming that environmental impacts could be mitigated through science and technology. For corporations, the argument that the environmental destruction caused by energy development could be curbed by advances in science and technology became particularly important with the passing of the National Environmental Policy Act of 1969 (NEPA), which mandated that companies and

governmental agencies assess environmental impacts before development, as well as other environmental legislation that both predated and postdated NEPA. This legislation included air, water, and mining reclamation laws.

Chapter 2 looks at Navajo and environmentalist opposition to coal gasification development that corporations planned for the same coal-lease areas on the Navajo Reservation that I address in first chapter. This took place during the mid-1970s. Opponents to coal gasification challenged the corporate discourse that conflated energy development with economic progress; they claimed that energy development threatened existing land uses, such as sheep herding and farming, as well as the health of the people who lived near the centers of energy development. Navajo opponents to coal gasification also argued that this energy development continued the legacy of Euroamerican conquest in which outsiders colonized their ancestral lands.

Both Indian activists and environmental groups used environmental laws and science to attack gasification. Whereas corporations tried to make the case that adhering to new environmental legislation and carrying out intensive energy development could be achieved simultaneously, Indian activists argued that these were mutually exclusive. Environmental groups poked holes in governmental studies that tried to predict air pollution and water consumption. Navajo groups and environmentalists generally failed to unite their efforts in opposing coal gasification. And, even though coal gasification development never materialized, the planned

development had a factionalizing effect on the Navajos—particularly between local communities and tribal leaders.

The second part of the thesis looks at coal energy development on public lands located within the San Juan Basin, with emphasis on the Chaco-Bisti area located adjacent to the Navajo Reservation where the conflict over coal gasification occurred. This planned energy development took place in the late 1970s through the early 1980s, the conflict became particularly contentious from 1982 to 1984. Chapter 3 focuses on how mining and utility companies asserted their right to develop the public domain based on federal land leasing policies. These companies had a powerful ally in the Reagan administration, which attempted to dispose of the public domain—and public resources—through either land sales or the leasing of land. Utility and mining companies equated energy development within the San Juan Basin with economic salvation and declaring it provided the answer for growing energy market needs throughout the Southwest. A second focus of this chapter is environmental groups, galvanized by the threat of the Reagan administration, becoming active in both national energy issues and coal development within the San Juan Basin, especially in the Chaco-Bisti area. Specifically, I look at how environmental groups directly refuted corporate rationales for energy development in the region.

In chapter 4, I maintain a focus on the Chaco-Bisti region to look at environmental groups' and Navajo groups' opposition to coal-energy development. I look at what was at stake for each of these groups. Environmental groups, I argue,

mostly focused on wilderness protection as a means to assert their own legitimate stake in the region. Navajo opponents to energy development, on the other hand, mostly emphasized their pre-eminent rights to the land and resources based on their ancestral heritage as well as their current use of land for livestock grazing. I particularly examine how Navajos distrusted corporate assertions that strip-mined areas could be reclaimed and returned to productive grazing land. Interwoven with this story is how governmental agencies and corporations viewed wilderness designation and mining reclamation.

This study necessarily treated these groups more monolithically than I had hoped. With corporations, I mainly focus on corporate executives and managers who directed the course of their companies, while neglecting perspectives of wage-earning laborers. With environmental groups, my analysis centers on the national and local environmental groups—such as the Sierra Club and the Southwest Research and Information Center—rather than the fissures within or between these groups, which would represent a larger spectrum of more radical environmental groups like Earth First! I do, however, try to show how, in distinct contexts, various environmental groups employed different tactics for opposing energy development or created coalitions in which the voice of one environmental group was indistinguishable from another. And with Navajo groups who opposed coal-energy development, I primarily address local leaders and tribal leaders whose voices are most represented in the historical record. (Local Navajo voices are perhaps the hardest to recover from the historical record without conducting oral interviews, and environmental activists' voices are also best

recovered through oral interview, particularly to get at the deeper meanings underlying their activism.) In the case of the Navajos, I bring out most how energy development created fissures in local versus tribal interests. Each of these groups, however, could be broken down in greater detail. But even if the theme of fissuring within these groups were explored further, it would only advance my argument that energy development in the San Juan basin created a highly contested terrain. And in making this argument I try as much as possible to allow the voice of particular individuals representative of these groups to come forward and speak for herself or himself and, in doing so, reveal their own understandings of and interests in energy development.

Energy companies are among the most powerful corporate entities in modern society, and their development of energy resources is among the top factors driving environmental change. Nothing made this more evident than the recent event of the British Petroleum Industry's oil blowout in the Gulf of Mexico. By undertaking detailed and place-specific studies of energy development, we come to better understand not only how energy development unleashes environmental changes and social conflict, but also how multiple meanings are built around things that seem objective on their surface—such as the natural environment, science, and environmental legislation. By closely examining how different meanings of energy development are constructed, we are not only in a better vantage point for understanding how energy corporations legitimized their industries through the use of discourse and science but, by also examining those who opposed energy development, we might develop a better

perspective of the people who contested energy development and how their methods for resisting corporate power operated.



PART I:

COAL ENERGY DEVELOPMENT AND CONFLICT ON THE NAVAJO RESERVATION

## CHAPTER 1

### PLUGGING INTO THE DESERT: ENERGY DEVELOPMENT, ENVIRONMENTAL DAMAGE, AND CORPORATE DISCOURSE

Quickly on the heels of World War Two, the San Juan Basin region became central to the energy future of the greater Southwest. During the 1960s, Farmington, New Mexico, was a little-known town, despite its centrality to the energy consumption of large urban areas. The larger Colorado Plateau desert environment spreading out from this town sitting on the San Juan River was even more obscure. Most urban consumers, then as now, likely knew little to nothing about this place, as is the case with many other hinterland regions from where their energy is derived. But the growth of cities throughout the Southwest—Los Angeles, Phoenix, Tucson, Albuquerque—was directly tied to the obscure and remote San Juan Basin region. The cities, quite literally, plugged in to the desert.

Over a twenty year period—from roughly 1960 to 1980—coal-energy development on eastern Navajo reservation initiated and intensified. During this period, the Navajo Mine and the Four Corners Power Plant became the first and the largest mine-mouth electricity operation in the region. Utility and mining companies also planned coal-gasification projects, designed to convert combustible coal into a synthetic natural gas to be piped to southwestern markets, during the 1970s. This intensive energy-development plan damaged the region's natural environment: it ripped vegetation, soil, and rock from the earth's surface; it used large quantities of water; and it polluted the air and water.

Corresponding to the intensified energy develop over this twenty year period, corporations built different discourses around their energy development programs and the environmental damage that they wrought. Initially in the 1950s and early 1960s, the corporate discourse was devoid of the social and environmental costs of energy production; the corporate discourse of progress equated increased energy production with increased economic benefits for everyone, whether a rural Navajo resident who could benefit from employment opportunities or urban-based industries and residents who would have more access to energy. With increased environmental legislation in the late 1960s and 1970s, however, corporate discourses employed both rhetoric and scientific knowledge in an attempt to downplay the environmental and social consequences of this rapid and intensive program of energy development. Corporations particularly emphasized how they could manage the environmental effects of energy development through science and technology. When the United States plunged into an energy crisis during the 1970s, energy corporations touted their industries as central to the nation's energy security. As the concerns of the day changed, corporate discourses morphed to mirror the dominant values and concerns of the times. But some narratives remained constant throughout the 1960s and 1970s—particularly energy corporations' narrative of economic progress.

The year of 1963 marked a watershed in which the San Juan Basin hinterland became connected to the southwestern region because of electricity. During the dry and hot month of June, state and local governmental officials and investment bankers, but mostly industrialists and capitalists—primarily utility and mining executives—

gathered at Farmington in the desert to dedicate the Four Corners Power Plant and Navajo Mine. Utah Construction Company had actually been prospecting for mineable coal in the Navajo Reservation a decade earlier, but the 1963 dedication marked a pivotal point: Utah Construction's coal would now be consumed by the Four Corners Power Plant—and energy could be transformed into revenue. The president of Utah Construction, E. W. Littlefield, viewed this occasion as marking only the initial phase of his company's ambitious program for coal mining and energy production. "The coal reserves in Utah's leasehold which remain uncommitted," he declared, "remind us what has been accomplished here is not the goal, but a step—the threshold to greater fulfillment . . . . In these vast reserves, we had found a sleeping giant of potential energy."<sup>1</sup>

Littlefield's dedication speech did not indicate that his company had reached its end goal in bringing coal to market. Rather, in form true to corporate capitalism, it only marked Utah Construction's initial realization of converting its coal lease into energy and profits, with greater development plans lurking in the immediate future. The first two units of this power plant, which came online in 1963, each generated 175,000 kilowatts of energy.<sup>2</sup> A third unit, already under construction at the time of the 1963 Four Corners Power Plant and Navajo Mine dedication ceremony, added another

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<sup>1</sup> "Remarks of E.W. Littlefield, President and General Manager, Utah Construction & Mining Dedication Co. at Ceremonies, Navajo Mine and Four Corners Power Plant, Farmington, New Mexico, June 21, 1963," Utah Construction/International Collection Special Collections, Steward Library, Weber State University [hereafter UCIC], box 164, folder 3. For a general overview of the Navajo Mine, see Nickelson, *One Hundred Years of Coal Mining in the San Juan Basin*, 108-118.

<sup>2</sup> See report entitled "Navajo Power Project," Utah Construction & Mining Co, June 1963, p17, UCIC, box 164, folder 3.

225,000 kilowatts of energy.<sup>3</sup> Whereas Utah Construction mined the coal for this power plant, Arizona Public Service Company owned all three of these initial power generating units, which fed electricity through transmission lines running some three-hundred miles across the desert until reaching their terminus at Phoenix.

And the environment for producing and selling energy in the post-World War II American West was ripe. From 1963 to 1971, the city lights spread out from southwestern metropolitan nuclei like a consuming fire—a conflagration that would spread only more and more throughout this and later decades. According to a Federal Power Commission study, energy consumption in the United States doubled every eight years. Other studies placed these rates at a forty to fifty percent increase during the 1960s. The brief oil embargo imposed by Middle Eastern countries in 1967 and the more dramatic Arab Oil Embargo in 1973 intensified this already dramatic energy development of energy resources. In response to restricted access to oil, the governmental and corporate eyes turned to the United States' most abundant energy resource: coal.<sup>4</sup>

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<sup>3</sup> "Fact Sheet," UCIC, box 164, folder 3.

<sup>4</sup> For energy consumption rates discussing energy needs doubling every ten years, see Federal Power Commission, *1970 National Power Survey*, Part III (Washington D.C., GPO), III-3-16. Also see Alan Randall and Berry Ives, "Recent Evidence on the Demand of Electricity," *New Mexico Business*, September 1974, 3-6. For increased energy rates estimated as 40-50% during the 1960s and a discussion of energy needs after the Arab Oil Embargos and the United States' resulting increased reliance on coal, see United States Department of the Interior, Bureau of Reclamation (hereafter USDI BR), *Final Environmental Statement, WESCO Gasification Project and Expansion of Navajo Mine by Utah International Inc., San Juan County, New Mexico*, vol. I (Washington, D.C.: Commissioner's Office, 1976), 1-4 and 1-6. For a good discussion of the Arab Oil Embargo and its effect on US domestic federal energy policies, see Melosi, *Coping with Abundance: Energy and Environment in Industrial America*, chapter 14. Also see David Howard Davis, "Energy on Federal Lands," in *Western Public Lands and Environmental Politics*, ed. Charles Davis (Westview Press: Boulder, Colorado, 1997). For a general overview of post-world World War II coal-

The demand for energy fueled by urban expansion of southwestern cities and the geopolitical energy climate became written into the local landscape of the San Juan Basin in the form of large-scale coal mining, electricity generation, and coal gasification. The Four Corners power plant added two additional units—Units 4 and 5— in 1969 and 1970, which pumped electricity into the southwest’s expanding electrical grid. Combined, these two additional units added 1,600 megawatts of electricity to the total capacity of the Four Corners Power Plant, almost tripling the plant’s electricity generation when compared to the output of the first three units that were built in the 1960s. By 1971, the Four Corners Power Plant could generate 2,175 megawatts—or enough electricity to fuel the electricity demands of a city totaling some 1.5 million people. This energy, however, did not flow to a single city; nor did a single corporation own the Four Corners power plant. Rather, six southwestern utility corporations split the ownership of these two units: Southern California Edison Company (48%); Arizona Public Service Company (15%); Public Service Company of New Mexico (13%); Salt River Project (10%); Tucson Gas & Electric Company (7%); and El Paso Gas & Electric Company (7%).<sup>5</sup>

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energy development on the Colorado Plateau see Charles Wilkinson, *Fire on the Plateau: Conflict and Endurance in the American Southwest*.

<sup>5</sup> The ownership and power generating figures are reported in “Fact Sheet,” UCIC, box 164, folder 3. The figure that the Four Corners Plant could generate electricity for a 1.5 million-person population is reported in USDI BR, *Final Environmental Statement, Proposed Modification of Four Corners Powerplant and Navajo Mine, San Juan County, New Mexico*, vol. I (Washington, D.C.: GPO?, 1976), 1.6. Apparently, three additional units were planned for the Four Corners Plant, which would have brought energy generation up to 5,000 megawatts. See “Four Corners Powerplant,” New Mexico Conservation Coordinating Council, Center for Southwest Research, University of New Mexico (hereafter NMCCCR), box 2, folder 2.

Energy corporations and the federal government turned to the coal found in this region not only for electricity generation but also to compensate for declining natural-gas reserves. Although coal gasification development plans busted by the late 1970s, these proposed developments were massive in scale. Energy and mining corporations slated coal-gasification plants for the southern half of Utah Construction's mining lease on the Navajo reservation and for lands immediately adjacent to the southern boundary of Utah Construction's lease. Texas Eastern Transmission Corporation in Houston and Pacific Lighting Corporation in Los Angeles formed a joint-venture corporation called Western Gasification Company (WESCO), which planned to build four gasification plants that would produce 250 million cubic feet of gas each day. WESCO hoped to have its first gasification plant operational by 1979. Utah Construction signed a contract to provide water and coal to WESCO. El Paso Natural Gas and Consolidation Coal Company (Consol) simultaneously planned its own coal-gasification project for an area located to the immediate south of Utah Construction's mine lease area.<sup>6</sup>

In order for electricity—or gas derived from burning coal—to be exported to energy-hungry cities, three primary transformations of the hinterland environment had to occur first. Energy development on this scale demanded that large surface areas of land be strip-mined to unearth coal, which affected soil and vegetation communities. Coal mining, electricity generation, and coal gasification also required tens-of-thousands

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<sup>6</sup> USDI BR, *Final Environmental Statement, WESCO Gasification Project and Expansion of Navajo Mine by Utah International Inc., San Juan County, New Mexico*, vol. I, 1-3. "Navajo Power Project," Utah Construction & Mining Co., June 1963, UCIC, box 164, folder 3. This report indicates that Utah International sought coal-gasification markets for their coal as earlier as 1963.

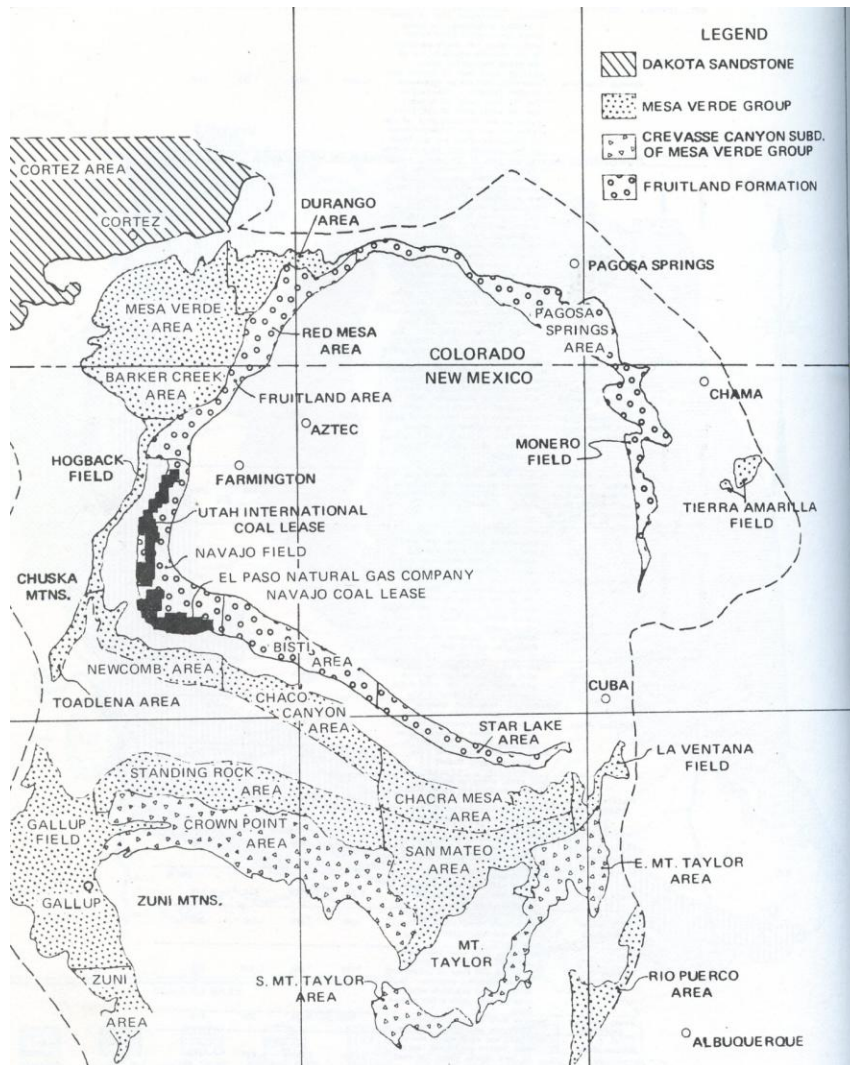
of acre-feet of water each year. And power generating plants, burning massive quantities of coal, emitted particulate and gas pollution into the air.

But another transformation, one not visible to the eye, took place before all these other environmental changes occurred: legal lines were drawn around coal resources. Utah Construction's 1957 lease was superimposed on a linear coal seam running some 24 miles in length. This seam stretched some 30 miles to the south of Farmington, with the original lease area covering some 24,320 acres (see Map 1-1). In 1965, this lease was increased to 31,000 acres. El Paso Natural Gas acquired an even larger lease located on the same coal seam, which was located immediately to the south of Utah Construction's lease. In 1959, El Paso obtained a prospecting lease of some 85,760. After an earlier mining lease lapsed during the 1960s, El Paso Natural Gas and Consolidation Coal Company (Consol) jointly renegotiated this lease on tribal lands for 40,286 acres (see Map 1-2). Utah International and El Paso came into legal control over a sizeable area—over 71,000 acres combined—on the Navajo Reservation.<sup>7</sup>

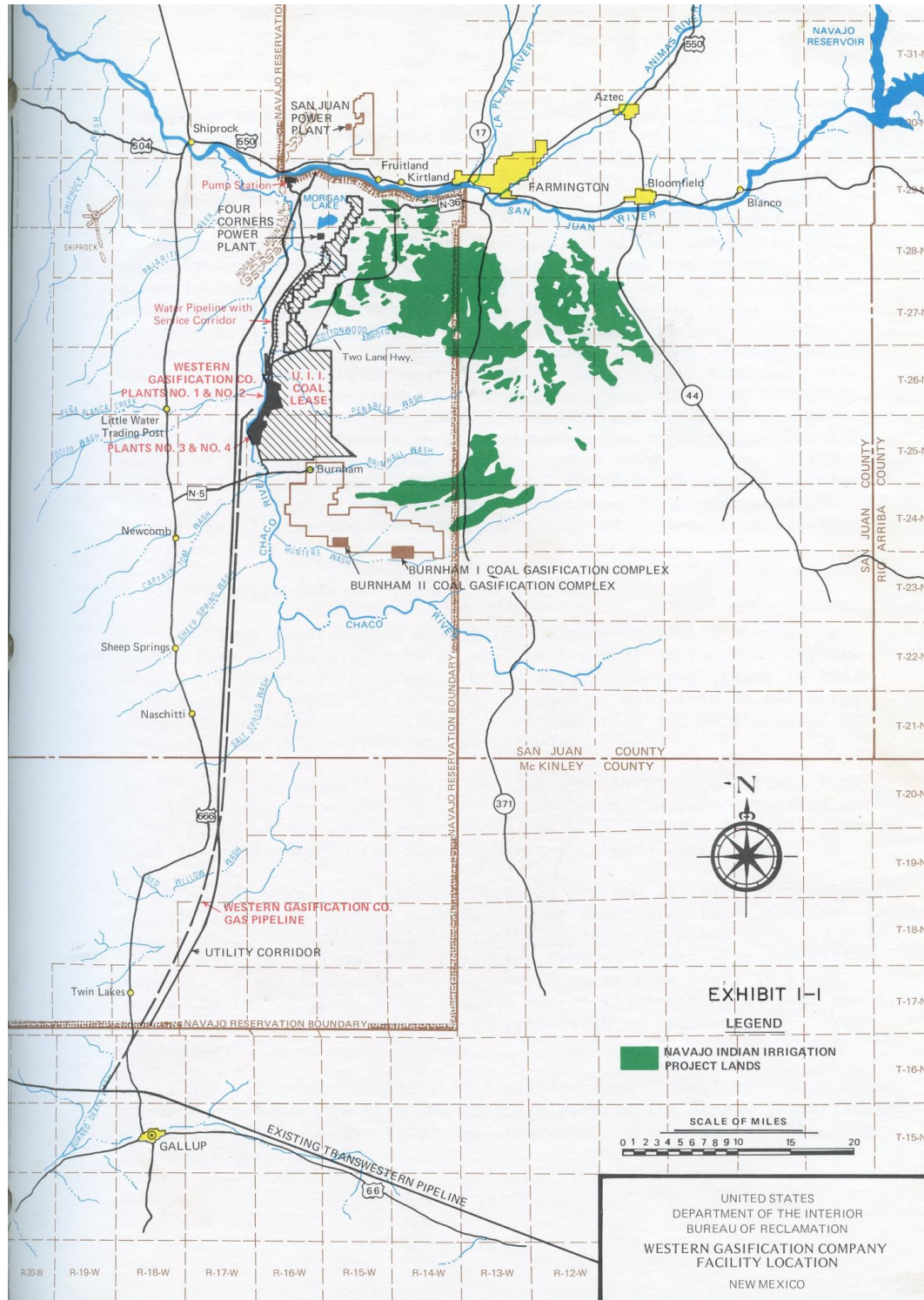
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<sup>7</sup> Nickelson, *One Hundred Years of Coal Mining in the San Juan Basin*, p. 109 and 114; USDI BR, *Final Environmental Statement, El Paso Gasification Project, San Juan County, New Mexico*, vol. I (Washington, D.C.: Commissioner's Office, 1977), 1-1 and 1-3 through 1-4.





Map 1-1: Geological Map Showing Coal Seam with Utah International's and El Paso's Coal Leases Superimposed on the Coal-Bearing Formation. (From *Final Environmental Statement, WESCO Gasification Project and Expansion of Navajo Mine by Utah International Inc, San Juan County, New Mexico, Volume I* (Washington, D.C.: Commissioner's Office, 1976).

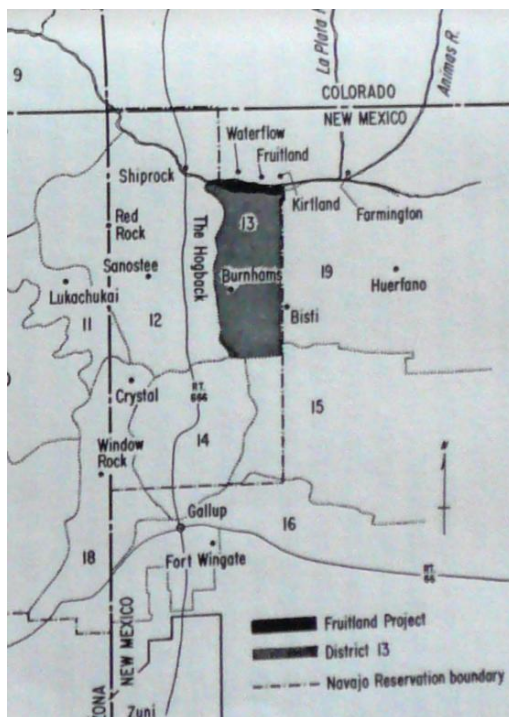


Map 1-2: Utah International's and El Paso's Coal Leases and the Four Corners Power Plant Coal Lease Areas and Four Corners Power Plant Shown on Navajo Reservation. Navajo Indian Irrigation Project is also shown. (From *Final Environmental Statement, WESCO Gasification Project and Expansion of Navajo Mine by Utah International Inc, San Juan County, New Mexico*, Volume I (Washington, D.C.: Commissioner's Office, 1976).

These leases altered this landscape from a place of relative local control to one of outside corporate control. Rural communities where this coal development occurred, such as Burnham, almost entirely relied on stock grazing for their livelihoods. Agriculturalists and stock raisers comprised a large percentage of the economy even in the more diversified economy in Shiprock area as late as the 1974. The land leased for Utah Construction and El Paso's coal development existed entirely within lands categorized as desert grasslands—perhaps the most important vegetation zone for pastoralist economies on the Navajo Reservation. In 1969, an estimated 12,964 sheep and goats, 654 cattle, and 242 horses foraged on the grazing district where both the Utah Construction and Consol leases were located (See Map 1-3). On the southern portion of Utah Construction's lease alone, some 1,500 sheep grazed upon the land. The mining leases, however, gave corporations the legal title to dictate how nature was put to use within these legally delineated spaces. And the corporate agenda for this land was defined by a singular agenda: intensive coal extraction and energy production.<sup>8</sup>

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<sup>8</sup> For land classification, see USDI, BR, *Proposed Modifications to the Four Corners Powerplant and Navajo Mine, New Mexico, Final Environmental Impact Statement*, vol. I (1976), 2.108. For grazing figures, see USDI BR, *Final Environmental Statement, WESCO Gasification Project and Expansion of Navajo Mine by Utah International Inc, San Juan County, New Mexico*, vol. I, 2-111, 2-113, 2-132. My conception of local versus outsider control over natural resources is informed by Louis Warren's *The Hunter's Game: Poachers and Conservationists in the Twentieth-Century America* (New Haven: Yale University Press, 1997), especially pages 9-17.



Map 1-3: Grazing District 13 Located in Area where Utah Construction and El Paso Lease Areas. (From Tom T. Sasaki, *Fruitland, New Mexico: A Navajo Community in Transition*. Ithica: Cornell University Press, 1960.)

Utah International strip-mined large tonnages of coal on their lease, altering the physical environment by removing topsoil and vegetation. Utah International estimated that over half a billion tons of minable coal was found in coal seams ranging from two- to twenty-feet in thickness. Through means of massive dragline machinery and blasting technology, Utah Construction removed between 20 and 120 feet of rock and earth overburden before reaching the desired coal seams. Utah Construction then unearthed the lens of combustible coal at a rate of 6,000 tons per day, amounting to 1.5 million tons per year in 1963. By 1977, this annual rate reached 7.42 million tons of strip-mined coal that fed the Four Corners Plant and the San Juan Plant located about eight miles to the north. In terms of acreage, Utah Construction stripped some 3,000 surface acres by 1976. Coal gasification plants, had they been built, would have further intensified strip

mining on both Utah Construction's and El Paso's lease areas. Fuel for the WESCO gasification project, for example, would have required the strip mining of an estimated 1,420 acres each year, once all four gasification plants became operational. Vegetation disturbance from this mining process, as I discuss in later chapters, became a particularly contentious issue between industrialists and opponents of energy development.<sup>9</sup>

As energy generation from coal-fired power plants demanded large tracts of land to be strip-mined, it also required intensive water consumption. This water circulated through the arteries of the generators for cooling purposes and for producing steam. The steam then turned the giant turbines that wheeled energy into the grid. In order to bring their coal to market, then, Utah Construction needed to obtain large quantities of water. In 1955, the State of New Mexico allocated Utah Construction an annual entitlement of 139,000 acre-feet, which was to be drawn from the San Juan River. This water lease was renegotiated to 51,600 annual acre-feet in 1958. Utah Construction leased most of this water to Arizona Public Service Company for its Four Corners Power Plant, with the plant itself consuming coal from Utah's Navajo Mine. Lake Morgan, an artificial reservoir capable of holding 39,000 acre-feet of water, was excavated next to the smokestacks of the Four Corners Plant. This San Juan River water outtake was

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<sup>9</sup> For lease acreage, see Nickelson, *One Hundred Years of Coal Mining in the San Juan Basin*, 109 and 114; for tonnage totals during 1977, see p. 117. Total available, yearly, and daily tonnage of stripped coal is reported in a Utah Construction News Release, 21 June 1963, UCIC, box 164, folder 3. For tonnages of this year, also see report entitled "Navajo Power Project," Utah Construction & Mining Co., June 1963, UCIC, box 164, folder 3. For acreage estimates of coal stripped on the Navajo Mine, see USDI, BR, *Proposed Modifications to the Four Corners Powerplant and Navajo Mine, New Mexico, Final Environmental Impact Statement*, vol. I, 2.97. For estimated WESCO strip-mined acreage, see USDI BR, *Final Environmental Statement, WESCO Gasification Project and Expansion of Navajo Mine by Utah International Inc, San Juan County, New Mexico*, vol. I, 1-32.



stored in the cooling pond, with much of it consumed by natural evaporation, forced evaporation (occurring as water circulated throughout the water plant), seepage, and ash sluicing. However, once the plant became fully operational, an estimated 7,000 acre feet/year of water returned to the San Juan River via Chaco Wash and, as I discuss later, was a source of water pollution.<sup>10</sup>

Intensified energy production equaled intensified water consumption. In 1968, as the two largest generating units were being added to the Four Corners Power Plant, both Arizona Public Service Company and Utah Construction came to control respectively 20,200 annual acre-feet and 44,000 annual acre-feet of additional San Juan River Water. Public Service Company eventually used this water to bring additional generating units of the Four Corners Power Plant into production. Utah Construction used this water for speculation purposes: the company promised to lease 35,000 annual acre-feet of its water to WESCO for coal gasification, which, in turn, would utilize coal extracted from Utah Construction's Navajo Mine. The El Paso coal-gasification project, not having direct legal control of any water, looked to lease some 28,000 annual acre-feet from Indian, federal, and state agencies.<sup>11</sup>

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<sup>10</sup> "Statement of S.E. Reynolds, State Engineer, New Mexico," in In US Congress, Senate, Problems of Electrical Power Production in the Southwest, Hearings, 24 May 1971, p. 24. "Fact Sheet," n.d., UCIC, box 164, folder 3. For water discharge figures from Four Corners Power Plant into Chaco Wash, see USDI, BR, *Proposed Modifications to the Four Corners Powerplant and Navajo Mine, New Mexico, Final Environmental Impact Statement*, vol. I, 2.78.

<sup>11</sup> "Statement of S.E. Reynolds, State Engineer, New Mexico" in US Congress, Senate, *Problems of Electrical Power Production in the Southwest, Hearings*, 25. For WESCO and El Paso's estimated water consumption, see USDI BR, *Final Environmental Statement, WESCO Gasification Project and Expansion of Navajo Mine by Utah International, Inc., San Juan County, New Mexico*, vol. I, 1-20.

As coal mining and coal-energy production impacted the land surface and consumed large quantities of water, it also altered the air. One of the main factors contributing to air pollution was the poor quality of coal located on the Navajo Mine. Coal extracted by draglines on the Navajo Mine had a low British Thermal Unit (BTU) value and high ash content. Utah Construction mined this low-quality coal because it occurred in large and accessible deposits accessible by strip mining methods. And by building a nearby power plant, the short hauling distances made this poor-quality coal profitable to burn. This low-grade coal likely would not be used for more distant markets; high transportation costs generally make only higher-quality coals profitable to transport in bulk. Utah Construction made an agreement with utility companies to supply the nearby Four Corners Power Plant with coal having a British Thermal Unit (BTU) of only 8,500, which is one of the lowest BTU values of any coal-fired power plant in the region if not the country. By burning such a low-grade coal, the Four Corners Power Plant greatly exacerbated air-pollution problems—such as ash waste, particulate emissions, and gas emissions—inherent in any form of electricity generation that relies on burning coal. Coal-gasification plants, had they been constructed, also would have emitted these pollutants, although at estimated smaller amounts than coal-fired electricity power plants. As I will discuss in detail, particulate and gas emissions became major technological problems for energy corporations to solve.<sup>12</sup>

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<sup>12</sup>For coal grades and percentages of ash in coals throughout the country, see USDI, Bureau of Land Management (hereafter BLM), *Resource and Potential Reclamation Evaluation, Bisti West Study Site Bisti Coal Field*, EMRIA, Report 5-1976 (1976), appendix E: Coal Resources, page E-22. This source places the range of ash content in coal samples from throughout the country at 2.5 to 32.6%, with the average being 8.9%. The Navajo Mine, which supplied the Four Corners Power Plant, had an ash content of around 19%,

From the initial phases of Utah Construction’s Navajo Mine and Arizona Public Service’s Four Corners Power Plant, corporations celebrated the technological achievement of their industry, seemingly without second thought to any possible environmental and social drawbacks. At his 1962 speech at the Four Corners Power Plant dedication, Littlefield extolled the “foresight and practical imaginations of our engineers and geologists [who] convinced us that advancing technology would provide solutions to most or all of [the] difficult problems” of such a large- scale energy operation located so far from markets. These logistical “problems” included, in Littlefield’s superlative language, “the tremendous mining operations, the massive power plant, the beautiful reservoir, the great transmission lines whose towers march proudly across the hills with their burden of hundreds of thousands of kilowatts of energy.” Littlefield’s speech celebrated science and technology; it celebrated the human capability to engineer an industrial project that could transform deposits of ancient marine life into the lifeblood of modernity—energy.<sup>13</sup>

But it was not only scientific and technological ability that Littlefield celebrated but progress itself. Notions of an extremely generalized ideology of progress soared to rhetorical heights in Littlefield’s dedication speech. The “greater significance of the

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or over two times the average. For the Four Corners Power Plant emissions and ash content, see “Four Corners Generating Station, Units 1, 2, and 3” and “Four Corners Generating Station, Units 4 and 5,” Montoya Papers, box 47, folder 21. “Navajo Power Project Mine Development Guides,” n.d., UCIC, box 166, folder 9; page 4 of this report discusses the profitability of mining low-grade coal. For estimated WESCO strip-mined acreage, see USDI BR, *Final Environmental Statement, WESCO Gasification Project and Expansion of Navajo Mine by Utah International, Inc., San Juan County, New Mexico*, vol. I, 3-7. Pollutants emitted into the atmosphere in pounds/hour were: sulfur dioxide 819 lb/hour; nitrogen oxide 1553 lb/hour; hydrocarbons 995 lb/hour; particulates 73 lb/hour.

<sup>13</sup> “Remarks of E.W. Littlefield, President and General Manager, Utah Construction & Mining Co. at Dedication Ceremonies, Navajo Mine and Four Corners Power Plant, Farmington, New Mexico, June 21, 1963,” UCIC, box 164, folder 3.



Navajo Mine and Four Corners Power Plant,” Littlefield proclaimed, “lies in the capacity they have been given to serve mankind—to provide a better way of life, as well in the Hogan on the reservation as in the home in Phoenix to share with the Navajo and non-Navajo alike the blessings and opportunities which true progress must bring to all men.”<sup>14</sup> Coal mining and electricity generation, Littlefield emphasized, would bring only social and economic benefits—and not any costs—to the region.

By making energy development appear consistent with Navajo lifeways that mixed modernity with tradition and by extolling both the grandeur of the landscape and the achievement of large-scale development, energy companies normalized the social and environmental changes that they unleashed. Utah Construction employed a variety of informational campaigns to spread their message that energy development in the region was beneficial. In a 1963 news release, for example, Utah Construction outlined how the Navajos have blended “tradition and progress” throughout the twentieth century. The news release tersely juxtaposes stock characteristics of modernity next to assumed traits of tradition: the forming of a tribal government in 1923 and an essentially pastoralist people; oil and gas leasing that began in 1924 and silversmiths and weavers; a scenic homeland and a place of thriving industry. The news release suggests that “the tourist who visits the Land of the Navajos will see the same scenic grandeur that has been there for centuries” but “in other ways . . . will see a vastly

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<sup>14</sup> Ibid.

changed land—changed by the determination of the Navajos to move forward and by the cooperative hard work of the Tribe and private enterprise.”<sup>15</sup>

During the late 1960s and early 1970s, however, the political climate for energy development changed due to the passing of environmental legislation. In 1971, Senator Henry M. Jackson arrived in Albuquerque to host a congressional field hearing. His objective was to discuss two conflicting agendas: intensified energy development and environmental protection. Jackson outlined how the Four Corners Plant would be augmented by five additional thermal-electric power plants in the Colorado Plateau region. In total, this would increase the region’s output from the existing 2865 megawatts to 12,000 megawatts, constituting over half the Southwest’s electricity demand of some 20,000 megawatts. This call for ramped-up energy development, however, conflicted with a series of new environmental laws enacted during the 1960s and 1970s. These included the Clean Air Act of 1955, which was amended in 1967, 1977, and most dramatically, in 1977; the Federal Water Pollution Control Act of 1972 and the Clean Water Act of 1977; the Surface Mining Control and Reclamation Act of 1977; and, most importantly, the National Environmental Protection Act of 1969. Energy development promised to intensify land disturbance, water consumption, and air pollution on the one hand; environmental legislation mandated that these and other destructive environmental effects be curtailed on the other hand.<sup>16</sup>

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<sup>15</sup> News Release from the Utah Construction and Mining Co., 21 June 1963, “The Navajo Tribe,” News Release from Utah Construction and Mining Co., 21 June 1963, UCIC, box 164, folder 3.

<sup>16</sup> Henry M. Jackson, “Problems of Electrical Power Production in the Southwest,” in US Congress, Senate, *Problems of Electrical Power Production in the Southwest, Hearings*, 1. The five power plants that

Jackson's own position was that increased energy production could be achieved while minimizing environmental effects through the use and development of technology. Jackson also viewed energy development as a means to bring economic prosperity to impoverished regions like the Four Corners area: "[W]e have the scientific and technological capacity to solve environmental problems and do it [energy development] in such a way as to provide for the kind of economic growth that we need to have if we are going to end poverty in America, and if we are going to provide for the material wants and needs of our people." Jackson's belief in the virtue and power of technology is epitomized by his assertion that if technology put people on the moon, surely technology would allow for intensive energy development and "clean air, clean water, and clean land." Jackson purportedly came to Albuquerque on a fact-finding mission to make recommendations to the federal government on how energy development in the Southwest should proceed. But he also emphasized that those who could reconcile "the need to provide energy, and the need to preserve our environment" would "have special testimony of interest."<sup>17</sup>

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prompted the field hearings included: Four Corners Plant and the San Juan Plant, both located in New Mexico near Farmington and Shiprock; the Kaiparowitz Plant and Huntington Plant located in south-central Utah; and the Mojave plant in Nevada, which although not on the Colorado Plateau was fueled by coal strip mined from Black Mesa on the Navajo Reservation. Analysts, according to Senator Jackson, expected the Southwest's electricity consumption to jump to 72,000 megawatts by 1985. See p. 1. I have listed only a sampling of environmental regulation that was coming into play during the 1960s and 1970s. For a brief overview of environmental legislation passed in the 1960s, see Marion Clawson, *The Federal Lands Revisited* (Washington, D.C.: Resources for the Future, 1983), 39-56. See p. 95 for the Mining Reclamation Act of 1977. Although the strip-mining legislation was enacted later in the decade, it was being discussed by the late 1960s and early 1970s.

<sup>17</sup> Jackson, "Problems of Electrical Power Production in the Southwest," 3. Jackson seems to personify this split of trying to protect the environment while also advocating for intensive energy development. In 1969, as committee chairman of Interior and Insular Affairs, Jackson introduced bill S.1075, which evolved

Energy and mining executives who already had a stake in the Four Corners plant and in future energy development in the region seemed to be the ones given this “special testimony of interest.” Speaking before Senator Jackson, industrialists emphasized that energy development could proceed in a manner consistent with environmental regulations and social responsibility. They did this primarily by aligning their arguments with Senator Jackson’s own position that scientific expertise and advances in technology could control for environmental damage. And nearly all of these corporate men articulated a discourse of economic progress to legitimize their industry in the rural and economically depressed Four Corners area, again aligning with Jackson’s own position.

Albert L. Reeves, the senior vice president of Utah Construction, serves as a good example of how corporate executives relied on unproven science to justify their industries, which exploited the natural environment. As an executive of a corporation heavily invested in strip mining, Reeves was aware of nascent reclamation legislation during the late 1960s and early 1970s. Of the twenty-three states where strip mining occurred, nineteen passed reclamation regulations by November 1971. The State of New Mexico passed its Coal Surface Mining Act in 1972, which applied to the Utah Construction’s Navajo Mine, which fell within state jurisdiction even though it was

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into the National Environmental Protection Act. Jackson, however, was also criticized by the National Indian Youth Council, a group discussed in detail in chapter 2, for catering to coal-gasification lobbyists. See Lynton Keith Caldwell, *The National Environmental Policy Act: An Agenda for the Future* (Indianapolis: Indiana University Press, 1998), 1-2. And John Redhouse to William McCormick, Jr., Director of Commercialization, U.S. Energy Research and Development Administration, Redhouse Papers, Center for Southwest Research, University of New Mexico (hereafter Redhouse Papers), box 1, folder 13 (1 of 3 and 2 of 3).

technically on reservation lands. Utah Construction worked with scientists affiliated with as the U.S. Soil Conservation Service, the Bureau of Indian Affairs, and regional universities to develop the science of vegetation reclamation. And to keep up with reclamation regulations, Utah Corporation appointed an attorney in its legal department to track the “multitude of different legislative enactments and administrative regulations regarding the reclamation of mined areas.”<sup>18</sup>

Reeves, however, admitted that his company and its consulting scientists had failed to establish vegetation on strip-mined lands. Nonetheless, he argued that Utah Construction’s reclamation efforts alone justified their continued mining operation. Reeves stated that his company “would maintain a program of test seeding with a view to determining what practical measures can be taken to establish some form of ground cover on the regarded areas.” Reeves, however, pointed out that mining reclamation was not required at the time of Utah’s original lease in the 1950s. When questioned about the success of re-vegetation efforts, Reeves stressed that they had failed up to this point. He said that natural re-vegetation occurred as quickly as artificial reseeding efforts. One effort at re-vegetating strip-mined land, Reeves said, resulted in the seeds failing to germinate, and instead “the finest patch of unplanned symmetrical growth of tumbleweeds you have probably ever seen in the western Unites States” took root. Despite this admitted failure at reclamation, Reeves’s overall message was that the local

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<sup>18</sup> For information on nascent mining reclamation laws, see “Strip Mining,” New Mexico Citizens for Clean Air & Water, LNC., November 1971, NMCCCR, box 2, folder 7. Also see, “Coal Surfacing Act, Chapter 68, Laws of 1972,” New Mexico Citizens for Clean Air & Water, Inc, October 1972, NMCCCR, box 2, folder 10. “Statement of Albert L. Reeves, Senior Vice President, Utah Construction & Mining Co.,” in US Congress, Senate, *Problems of Electrical Power Production in the Southwest, Hearings*, 80.

economic benefits, the low-cost energy for cities, and his company's "long range program to restore the mined area as nearly as practical to its original condition" proved "the soundness and integrity of the [mining] project."<sup>19</sup>

While Reeves expressed a faith in scientific studies to figure out how to re-vegetate disassembled environments, other corporate executives expressed a faith that technology could control for air pollution, which resulted from burning mass quantities of low-grade coal to generate electricity. At the congressional field hearings, G. A. Schrieber, president of Public Service Company of New Mexico, a company that held interests in the Four Corners Plant, proudly declared: "As a corporate citizen, our company has assumed a responsibility to effectively control or stop pollution wherever it relates to our activities . . . . We committed to install the most modern and efficient pollution control devices available."<sup>20</sup> William Reilly, the president of Arizona Public Service Company, the company holding the most ownership of the Four Corners Plant, echoed this message that technology could solve the environmental ramifications of energy development in more dramatic language: "It is my belief that this power can be provided in a manner that is compatible with the environment. Those who say this cannot be done not only look backward, but predict a future that holds no new advances from present levels of achievement. The 'turn off' or 'turn back' approach

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<sup>19</sup> "Statement of Albert L. Reeves, Senior Vice President, Utah Construction & Mining Co.," in *Ibid.*, 78, 80-81.

<sup>20</sup> "Statement of George A. Schreiber, President, Public Service Company of New Mexico," in *Ibid.*, 37. Schreiber stated that his position represented nine utility companies holding interest in the Four Corners Power Plant and/or proposed coal-fired power plants in the Four Corners region: Arizona Public Service Co., Department of Water and Power of the City of Los Angeles, El Paso Electric Co., Nevada Power Co., Public Service Co. of New Mexico, Salt River Project, Agricultural Improvement and Power District, San Diego Gas and Electric Co., Southern California Edison Co., and Tucson Gas & Electric Co. See p. 33.

leaves little room for the advancement of mankind and are weak and ineffectual approaches to problem solving efforts.”<sup>21</sup> Utility companies attempted to make electricity generation consistent with both existing and upcoming air-quality regulations by stressing that pollution technology would offset pollution in the same way that Utah Construction attempted to make its strip mining operation consistent with impending reclamation legislation by claiming that scientific progress would facilitate re-vegetation,

As with the failed case of reclaiming strip-mined lands, corporations’ technological attempts to control for pollution from electricity generation had already failed. This was partially due to the lack of technological ability to control for pollutants emitted from burning coal—and particularly from the poor quality of coal found at the Navajo Mine. Reilly admitted that the mechanical dust collectors installed on the initial three units of Four Corners plant during the 1960s quickly dropped from 87% to 80% in terms of dust-removal efficiency.<sup>22</sup> In regards to ash content and British Thermal Unit (BTU) value, Utah Construction’s coal was some of the lowest-grade coal in the Four Corners region if not in the entire country.<sup>23</sup> The second- most-polluting plant in the Four Corners region, the Mojave Plant in southern Nevada, burned coal with a BTU rating of 10,000 to 11,500 BTU/lb and emitted 21 tons/day of particulate matter. The last two generators of the Four Corners plant, generators number 4 and 5, alone

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<sup>21</sup> “Statement by William P. Reilly, President, Arizona Public Service Company Co.,” in *Ibid.*, 84.

<sup>22</sup> “Statement by William P. Reilly, President, Arizona Public Service Company Co” in *Ibid.*, 85.

<sup>23</sup> For coal grades and percentages of ash in coals throughout the country, see USD1 BLM, *Resource and Potential Reclamation Evaluation, Bisti West Study Site Bisti Coal Field*, page E-22. This source places the range of ash content in coal samples from throughout the country at 2.5 to 32.6%, with the average being 8.9%. The Navajo Mine, which supplied the Four Corners Power Plant, had an ash content of around 19%, or over two times the average. For the Four Corners Power Plant emissions, including ash emissions, see “Four Corners Generating Station, Units 1, 2, and 3” and “Four Corners Generating Station, Units 4 and 5,” Montoya Papers, box 47, folder 21.

produced the equivalent energy output (1510 megawatts) as the Mojave Plant, but the Four Corners plant produced far more pollution. Given the same pollution removal efficiency rating (97.9%) as the Mohave Plant, the Four Corners plant would have emitted 52 tons/day of particulate matter, or twice that of the Mohave Plant.<sup>24</sup> This figure does not take into consideration the first three generators of the Four Corners Plant, which emitted a staggering 198 tons of particulates per day throughout the 1960s and early 1970s because these generators used an older filter system.

The reasons that the Four Corners Plant produced so much more particulate pollution is that the quality of the coal burned at the Four Corners Plant was of a much lower quality than the Mohave Plant; therefore, it was necessary to burn more coal at the Four Corners Plant than at the Mojave Plant and most other power plants in the region. The high volume of unburned ash spewed from the Four Corners plant literally disintegrated the dust collectors on the first three generators of the plant. If one assumes the reduced 80% efficacy rate reported by Reilly and other Arizona Public Service Company literature as being accurate, the first three of the five total generators comprising the Four Corners plant emitted some 198 tons of particulate matter into the air each day. Reilly, however, insisted new technology, such as wet scrubbers and electrostatic precipitators would reduce pollution to 10 tons per day. And, as

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<sup>24</sup> For another comparison, the Huntington Plant in Utah burned coal with 6 to 10% ash content and a BTU value of 12,200- 12,900/lb and the Navajo Plant near Page, Arizona, burned coal with an ash content of 8% and a BTU value of 11,000/lb. Compare this to the Four Corners Plant (and nearby San Juan Plant) that burned coal from Utah International's Mine, coal which had an ash content of 19% and a BTU value of only 8,900 to 9,000/lb. See "Four Corners Basic Statistical Data," "Mohave Basic Statistical Data," "San Juan Basic Statistical Data," "Navajo Basic Statistical Data," and "Huntington Canyon Basic Statistical Data," all found in Montoya Papers, Box 47, Folder 21.



mentioned above, even the use of the most advanced technology of the day, such as electrostatic precipitators with an assumed efficiency of 97.9 percent, left the two largest generating units (units 4 and 5) on the Four Corners plant emitting some 52 tons of particulate matter, 171 tons of sulfur oxides, and 174 tons of nitrogen oxides into the air each day. The question, then, was whether the technologies that energy companies employed would work and whether they would reduce pollution enough.<sup>25</sup>

And the answer, at least from a legislative perspective, seems to be no—the operators of the Four Corners Power Plant could not reduce pollution to the levels required by the State of New Mexico. New Mexico legislation required that particulate pollutants emitted from industries be controlled at an efficiency rate of 99.2 percent. This would have brought the Four Corners Plant’s particulate emissions down to 30 tons per day—still 60,000 pounds of particles released into the air every day—and the new pollution controls would not have controlled for sulfur oxide, nitrogen oxide, and other gas pollution. However, the State of New Mexico Environmental Improvement Board allowed the Four Corner’s power plant to operate throughout the 1970s despite the fact that it did not comply with state air-pollution regulations due to technological inability and failures.<sup>26</sup>

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<sup>25</sup> All ash and pollution figures come from “Four Corners Generating Station, Units 1, 2, and 3” and “Four Corners Generating Station, Units 4 and 5,” Montoya Papers, box 47, folder 21. According to these figures, the Four Corners Plant burned coal with a BTU/lb value of 8,900 to 9,000 and 19% ash content, whereas the Mohave Plant burned coal with a value of 10,000 to 11,500 BTU/lb and 5.84 to 12.8% ash content.

<sup>26</sup>One of the first extensions that the State of New Mexico Environmental Improvement Board granted the operators of the Four Corners Plant occurred in 1972. At the request of Southern California Edison and Arizona Public Service Co., the Board moved a 31 December 1973 deadline for complying with state particulate, sulfur dioxide, and nitrogen dioxide regulations from 31 December 1973 to 31 December

Technological inefficiency and breakdowns contributed to the Four Corners Plant's failure to reduce air pollution to levels required by the state. The scrubbers on units 1, 2, and 3 of the Four Corners Plant, for example, operated at an estimated efficiency percentage of only 90% efficiency rather than the 100% efficiency rating that Public Service Company (the sole owner of these generators) employed to calculate its rates of particulate and gas pollutions. The scrubbers designed to control for particulate pollution in the first three units of the Four Corners Plant also experienced numerous technological failures. And the electrostatic precipitators (the most advanced pollution control technology of the time) installed on generating units 4 and 5, the largest two units owned by multiple utility corporations, were designed to be 97% efficient, even though State of New Mexico air laws mandated an efficiency rate of 99.2%. Further, according to estimates given by utility corporations, the electrostatic precipitators on generating units 4 and 5 were bypassed 10% of the time.<sup>27</sup> To get an idea of what these figures mean, this equated to an additional 52 tons of particulate matter emitted into the air every ten days. That increased the daily average of particulate emissions from 52 tons per day to 57.2 tons per day for generating units 4 and 5.

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1974. See "Four Corners Plants Are Given More Time; 'Had Better Clean Up,'" *Albuquerque Independent*, 1 May 1972, copy in American Indian Oral History Collection, Center for Southwest Research, University of New Mexico (hereafter AIOHC), Box 23, Folder 11. Native American activist John Redhouse criticized the Environmental Improvement Board for issuing "variance after variance to these companies who continue to overpollute the air. . . . on the basis of the offender's financial ability or stated financial ability to meet federal and state mandates. When one violates the law, one should pay the price, no matter how rich or powerful." See "Statement by John Redhouse to the New Mexico Environmental Improvement Board," 19 August 1977. National Indian Youth Council Records, Center for Southwest Research, University of New Mexico (hereafter NIYCR), box 25, folder 27.

<sup>27</sup>For efficiency ratings of the first three generating units, see USDA, Bureau of Reclamation, *Proposed Modifications to the Four Corners Powerplant and Navajo Mine, New Mexico, Final Environmental Statement*, vol. 2, 1976, p. 10.177. For a discussion of technological problems with scrubbers, see vol. 1 of this EIS, p. 1.14. For a discussion on the efficiency rating of generators 4 and 5, see vol. 1, p. 1.16.

These and other failures to meet pollution regulations meant that the Four Corners power plant operated well outside of legal environmental regulations. In 1972, for example, the New Mexico State Environmental Board found that the plant's two largest generating units operated at an efficiency rate of only 73 to 81% (rather than the state requirement of 99.8%) and the plant therefore emitted four to eight times the allowable fly-ash particles.<sup>28</sup> The program enforcement manager for the state Environmental Improvement Agency speculated that the reason the plant was out of compliance was that the equipment had degraded from the previous year, when tests showed that the new equipment was meeting efficiency standards. Technological capability and pollution efficiency listed on paper was one thing. But once real coal hit the stacks, this technology proved vulnerable to failure.

Not only did Arizona Public Service Company fail to control its pollution to existing environmental regulations, but it contested more stringent state and federal pollution measures that had been enacted. Arizona Public Service Company, challenged more stringent state and federal regulations placed on sulfur dioxide emissions during the 1970s, and the company took both the state and the federal government to court.<sup>29</sup>

It would have been reasonable for companies like the Navajo Mine and the Four Corners

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<sup>28</sup> "Four Corners Pollution Too High," *Albuquerque Independent*, 3 August 1972, copy in AIOHC, box 23, folder 11.

<sup>29</sup> "Further Clarification of Company, State, and Federal Position on SO<sub>2</sub> Compliance for Four Corners Power Plant," Memorandum, USDI, Bureau of Reclamation, Upper Colorado Regional Office, 4 August 1975, copy in NMCCC, box 2, folder 10. This document states: "Arizona Public Service Company is presently contesting New Mexico State's SO<sub>2</sub> standards for the removal of SO<sub>2</sub> for Units 4 and 5. No commitment has been made by the company to meet the new standards, however, [sic] under New Mexico law the company is still obligated at this time to meet these standards. The company is also contesting the 70% overall removal of SO<sub>2</sub> required by Federal Regulations. However, they have submitted a compliance plan and committed to meet this standard, unless it is relieved from doing so by either EPA [Environmental Protection Agency] or the courts."

Plant to shut down if they could not meet environmental requirements—at least until until they could do so. However, energy companies continued to produce coal, energy, and profits despite of their ability to comply with environmental regulations and the corporate assurances to comply with environmental regulations. As longtime chairman of New Mexico Citizens for Clear Air and Water John Bartlett stated, “[T]he typical history of disputes over air pollution controls [in the region] has been industry statements that the ‘best available controls’ will be used, followed by plans to install the weakest controls required by the weakest interpretation of whatever law industry cannot eliminate with a stiff political and court battle.”<sup>30</sup>

Corporations not only insisted that they could employ science and technology to lessen the environmental effects of energy extraction and production, but they also suggested that their industries created environmental safeguards. William Reilly, for example, argued: “A plentiful supply of electricity is a fundamental requirement for the solving of some of our most serious environmental problems. Tomorrow’s new sewage systems, water recycling plants, mass transportation systems and air quality improvement programs—these cannot become reality without vast amounts of electrical power.” Reilly emphasized that electric energy production would provide

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<sup>30</sup> For the John Bartlett quote, see “Dr. John R. Bartlett, State Chairman, New Mexico Citizens for Clear Air and Water before the U.S. Congressional Field Hearings on San Juan Basin Coal Mining Plans, Santa Fe, New Mexico, 21 May 1983,” in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, p. 555.

environmental salvation, while failing to mention the environmental problems caused by energy industries like his Arizonan Public Service utility corporation.<sup>31</sup>

Other industrialists echoed Reilly's argument that increased energy production could be equated with environmental benefits. Schrieber suggested that increased energy generation would power the technology that would protect the environment and that a need for "achieving a balance between the obligation to preserve and improve the environment and the benefits of electric energy." Peter J. McTague, a consultant for the utility corporations holding ownership in the Four Corners Plant, repeated both Reilly's and Schrieber's rhetoric that power generation was consistent with environmental protection, saying that energy industries could not "contribute to environmental improvement" without first building new generating plants. Beyond just asserting that technology would ameliorate the negative environmental effects of electricity generation, utility corporations attempted to make increased energy production appear necessary for environmental protection.<sup>32</sup>

In order to construct a veneer of control and order over large-scale environmental damage inherent in large-scale energy development, mining and utility corporations employed a cadre of scientific and technological consultants to conduct environmental studies. Herbert S. Riesbol, a Bechtel Corporation hydrologist who formally worked for the Bureau of Reclamation, minimized the water consumption of

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<sup>31</sup> "Statement by William P. Reilly, President, Arizona Public Service Company Co" in US Congress, Senate, *Problems of Electrical Power Production in the Southwest, Hearings*, 84.

<sup>32</sup> "Statement of George A. Schrieber, President, Public Service Company of New Mexico," in *Ibid.*, 42. "Statement of Peter J. McTague, Gilbert Associates, Inc., Reading, PA," in *Ibid.*, 64.

and water pollution from electricity generation. He said that additional power plants, including the Four Corners plant, “will consume less than six percent of the waters presently available for development in the Upper [Colorado] Basin” while the “Mohave Plant in the Lower Basin will consume 10 percent of the allocation to the State of Nevada.” He also stated that the proposed plants would have no return flow of water, except for “a small ‘blowdown’ from the Four Corners cooling pond” and therefore would not pollute the Colorado River drainage. Riesbol employed his scientific authority to assure governmental officials that the Four Corners plant and the other plants in the region would “not create significant or unforeseen problems of either water availability or water quality.”<sup>33</sup>

With his own study of energy production and water quality, John R. Wright directly refuted Riesbol’s hydrological science. Wright, the chief for Water Quality for the State of New Mexico, conducted a water study of the Four Corners Power Plant on April 26, 1971. His study found that the power plant’s ash-sludging methods (what Riesbol described as “a small ‘blowdown’”) added large quantities of solids into the San Juan Basin. Other sources indicate that the total water discharges from the Four Corners Plant into the Chaco River, a tributary to the San Juan River, amounted to 7,000 acre-feet per year. Much of this water came from wet-scrubber air controls, which were added to the Four Corners Plant to meet more stringent air-quality standards. The

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<sup>33</sup> “Statement of Herbert S. Riesbol, Chief Hydrologist and Engineering Manager of Hydraulics, Bechtel Inc., San Francisco, Calif.,” in *Ibid.*, 61, 62. Riesbol stated that he represented Arizona Public Service Co., Department of Water and Power of the City of Los Angeles, El Paso Electric Co., Nevada Power Co., Public Service Co. of New Mexico, Salt River Project, Agricultural Improvement and Power District, San Diego Gas and Electric Co., Southern California Edison Co., and Tucson Gas & Electric Co.

scrubbers essentially wetted-down particulate matter, and retained the ash rather than emitting it into the atmosphere. This ash was then sluiced to holding ponds. But some of this water entered Chaco Wash, a tributary to the San Juan Basin watershed. Wright worried that this industrial waste water would add more toxic metals and salinity to the San Juan Water. Wright saw the water pollution problem in these terms: “The trading of an air pollution problem for a water pollution problem is not a solution to environmental control.” Wright also warned that somewhere between one-half of a ton to three tons of mercury was released from the Four Corners Plant smokestacks annually and that this mercury was entering the watershed. He recommended that an “over all [sic] examination of possible release of toxic substances be evaluated before significantly more plants go on stream.”<sup>34</sup>

The objectivity of science sometimes blurs with economic and political agendas. Perhaps this explains why the science of Riesbol (who represented various utility corporations’ interests) conflicted with the science of Wright. Riesbol insured that no unforeseeable problems with electricity generation and water pollution would arise. White, however, indicated that the technology to control for air pollution might create new water-pollution problems. The scientific knowledge behind the environmental

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<sup>34</sup> “Statement of John R. Wright, Chief, Water Quality Section, Environmental Services Division, Health and Social Services Department, State of New Mexico,” in *Ibid.*, 16. For the 7000 acre-feet figure (total water effluence figures from the Four Corners Plant into Chaco Wash), see USDA Bureau of Reclamation, *Proposed Modifications to the Four Corners Powerplant and Navajo Mine, New Mexico, Final Environmental Statement*, 2.121. Also see “Power Plant is Accused of Pollution,” *Albuquerque Journal*, 14 July 1971; “Four Corners Pollution Too High,” *Albuquerque Independent*, 3 August 1972; and “Power Plant Pollutes Water, EIA Charges,” *New Mexican*, 14 June 1971, copies in AIOHC, box 23, folder 10.

effects of energy development in this case appears to be as partial as the corporate discourse built around energy development.<sup>35</sup>

While energy corporations, along with their associated contractors and consultants, exerted much effort at extolling how technological advances and scientific progress would minimize the environmental effects of energy development, they also gave much attention to the bottom line: economic growth and prosperity. This rhetoric emphasizing the economic benefits of energy production encompassed both the larger American society and the Navajo Reservation. William Reilly, president of Arizona Public Service Company, conflated energy development with an unwavering ideology of economic growth: "Without adequate supplies of electric energy to assure the future growth of our economy, our efforts will be doomed to failure." Reilly and others also emphasized how energy development brought employment to the rural Navajo communities located near the Four Corners Plant and the Navajo Mine. Referring to Native Americans, Reilly suggested that "minority groups and others trapped in a ghetto-like existence . . . seldom if ever champion the 'no growth' or 'slow down'

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<sup>35</sup> For an excellent article that discusses the politics behind technology see David M. Introcaso, "The Politics of Technology: The 'Unpleasant Truth about Pleasant Dam,'" *Western Historical Quarterly* 26, no. 3 (Autumn 1995), 333-352. Also see Virginia Scharff, "Man and Nature! Sex Secrets of Environmental History," in *Seeing Nature through Gender*, ed. Virginia Scharff (Lawrence: University Press of Kansas, 2003), 3-19. In this chapter, Scharff is primarily calling for environmental histories that include gender analysis. However, she also recommends that environmental historians be more active in critiquing science: "We should heed critiques of science for practical reasons. Environmental historians often use biology, for example, but biology requires interrogation rather than appropriation. . . . categories of gender, race, and class construct scientific understandings of who, and what, counts as a human as well as what counts as natural." I also suggest that varying interests (such as corporate, environmentalist, economic, and political) are factors in socially shaping what we often think of as objective science. For an article addressing how corporate interest can muddle scientific findings, see Sarah L. Thomas, "A Call to Action: Silent Spring, Public Disclosure, and the Rise of Modern Environmentalism," in *Natural Protest: Essays on the History of American Environmentalism*, ed. Michael Egan and Jeff Crane (New York: Taylor and Francis Group, 2009), 185-203.



philosophy.” Rielly made sure to emphasize that the Four Corners plant employed some 240 people, 80 of whom were Navajo, and how the power plant provided royalty payments to both the tribal and state government while it stimulated the region’s economic base.<sup>36</sup>

Albert Reeves, vice president of Utah Construction, emphasized a development ideology similar to Reilly’s, and, also like him, Reeves reiterated the employment opportunities for Navajos in his discourse of energy development and progress. Reeves proclaimed: “Great natural resources represented by our Navajo mine reserves and other Western coal deposits will and must be further developed, either as fuel, or in more technologically oriented forms [such as coal gasification], or both. It will not be permitted to lie dormant and useless beneath the ground. Our economy will continue dynamic [sic] and will not stagnate, and the basic demands of its continuing growth cannot be denied.” While putting forth an aggressive development ideology, Reeves was careful to include the Navajos, on whose land his company’s lease sat, in his vision of economic progress: “As important as any other benefit is the fact that the mine operation has brought regular, long-term employment to the Navajo people on their Reservation.”<sup>37</sup>

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<sup>36</sup> “Statement by William P. Reilly, President, Arizona Public Service Company Co,” in US Congress, Senate, *Problems of Electrical Power Production in the Southwest, Hearings*, 83 and 84. Reilly equates energy development to a vague definition of economic progress: “[A]dequate supplies of electric energy are required to aid those many Americans who are at long last able to see a glimmer of opportunity on the horizon, an opportunity to share in a way of life that others take for granted. By that I do not mean only the material things of life. I refer, rather, to the opportunity to play an active role in our free enterprise system—to know that there is hope for an end to frustrations and for decent employment and self-respect” (83).

<sup>37</sup> “Statement of Albert L. Reeves, Senior Vice President, Utah Construction & Mining Co.,” in *Ibid.*, 76, 77.

With the 1973 Arab Oil Embargo and the ensuing energy crisis during the 1970s, the nation took its insatiable appetite of the two previous decades to an obsessive level. Following the Arab Oil Embargo, President Richard Nixon initiated Project Independence, a plan devised for making the nation energy-independent by developing domestic energy resources. President Gerald Ford augmented Project Independence by starting synthetic fuel projects designed to produce oil and gas from shale and coal. President Jimmy Carter, stating that energy independence was the “moral equivalent of war,” further developed Ford’s plans for intensifying energy generated from coal and “synthetic” fuel sources.<sup>38</sup>

During the energy-obsessed 1970s, energy corporations in the San Juan Basin modified their discourse to fit the times by proclaiming that their industries offered solutions to the energy crisis. Managers of Utah International’s Navajo Mine, for example, proclaimed that coal could solve oil shortages. Providing terse calculations that one ton of burned coal amounted to 130 gallons of gasoline, managers of this company estimated that “one large coal mine producing 9 million tons [of mined coal] per year, (Navajo produces 7 million) would save 1.1 days of total US petroleum consumption.”<sup>39</sup> The environmental costs of energy development—land disturbance, water consumption and pollution, and air pollution—were omitted while the narrowly defined metric for calculating the benefits of a massive coal-energy operation were emphasized. And the benefits themselves, at least in terms of coal replacing oil as an

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<sup>38</sup> For political overviews of Presidential energy policies during the 1970s, see Melosi, *Coping with Abundance*, chaps. 16 and 17; and Davis, “Energy on Federal Lands.”

<sup>39</sup> Corporate newsletter, “Coal Versus Petroleum,” *Teejin baa hane*, vol. 1, no. 2, March/April 1979, UCIC, box 166, folder 3.

energy source, seemed miniscule as Utah International's own figures offered coal as a pitiful alternative to oil as the annual environmental costs of a coal mine even larger than the Navajo Mine (one of the largest coal mines in the country) would amount to only a single day of America's voracious consumption of oil.

Coal gasification industrialists, such as El Paso Natural Gas and WESCO, also promoted their industries as solutions to energy shortages. Energy companies with interest in coal gasification pointed to the nation's abundance of coal reserves as being the best bet for independence from the country's dependence on foreign energy supplies. However, these industries suggested that synthetic coal gasification would not only solve natural gas shortages but that this form of energy would be a clean alternative to traditional coal-fired energy sources. These companies also stressed that coal gasification, relying on domestic supplies of coal, would free the United States from its dependence on foreign countries for energy. R. L. Rudzik, the general manager for WESCO, said that "coal gasification promises a major new source of energy for domestic consumption without dependence on foreign suppliers and without a negative impact on the US balance of payments." This statement echoed the Federal Power Commission's own 1975 opinion touting coal gasification as a means to US energy independence. And various presidential administrations throughout the 1970s, as touched upon earlier, threw support behind synthetic fuel programs.<sup>40</sup>

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<sup>40</sup> "Statement by Western Coal Gasification for Economic for Economic Development Subcommittee, U.S. Senate Committee on Public Works, Farmington, New Mexico, March 12, 1976 by R. L Rudzik, General Manager, Pacific Coal Gasification Company" in US Congress, Senate, Committee on Public Works, *Impact of Energy Development on Northwestern New Mexico, Hearing before the Subcommittee on Economic*

While energy companies with interest in coal gasification emphasized this technology as being clean energy and a route for national energy independence, their own self-interest in profiting from this potential source of energy appears to have been at the center of their heart. As early as 1971, E. W. Littlefield, Utah International's chairman, conflated his own corporate interest in maximizing its coal market with regional energy demands: "This extensive deposit [Utah International's Navajo Mine] represents one of the largest and lowest cost energy sources in the nation, and we would welcome the opportunity to participate in its development and conversion to synthetic gas to meet the critical energy needs of the West and Southwest."<sup>41</sup> But the Arab Oil Embargo of 1973, which precipitated the energy crisis of the 1970s, gave coal gasification proposals strong momentum. In a brochure targeted at potential investors, El Paso Natural Gas Company, which had an interest in creating a coal-gasification plant, proclaimed that the "challenges created by the energy shortage have presented El Paso with unprecedented opportunities for growth and versatility."<sup>42</sup> The brochure includes descriptions of El Paso's coal-gasification plant planned for the Burnham area, located to the immediate south of Utah International's Navajo Mine.

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*Development of the Committee on Public Works, 94<sup>th</sup> Cong., 2<sup>nd</sup> sess., 12 March 1976, p. 158-159 and 162-163; quote on p. 159. In his statement, Rudzik quotes a 1975 Federal Power Commission opinion: "[W]e are acutely aware of the need for this country to develop its own sources of energy. The coal gasification process is a means by which the United States may attain a greater measure of energy self sufficiency [sic] and reduce its vulnerability through dependence on foreign markets. Coal gasification is one of the few potentially commercial means of developing a supplemental supply of gas from domestic resources." See p. 162-163.*

<sup>41</sup> "Gasification of Utah International's New Mexico Coal Reserves under Study," News Release, Utah Construction, 27 October 1971, p. A-12, UCIC, box 167, folder 5. Utah International reiterated its objective to maximize market-potential: "Utah International, Inc. continues to direct considerable effort to the development of the Navajo mine in order that it may maximize its potential as a source of energy for the United States." See the brochure "Energy from Coal," p. 13, in UCIC, box 164, folder 8.

<sup>42</sup> "El Paso Natural Gas Company 1973 Annual Report," Montoya Papers, box 122, folder 8.

The energy crisis, for a brief period, made otherwise unprofitable energy production appear profitable. The companies behind coal gasification, El Paso and WESCO, attempted to secure federal loan guarantees for their gasification projects that had an estimated cost of more than one billion dollars. R. L. Rudzik, general manager of WESCO, said: "Lacking loan guarantees, ours and Texas Eastern's net worth and income together simply do not provide sufficient credit base to convince lenders the loan would be paid off if we were unable to complete or operate the project for reasons beyond our control. . . .[In] the absence of federal incentives and changes in regulatory policy with regard to synthetic gas or other policies creating a stable and favorable synthetic fuels investment environment, significant amounts of synthetic fuels are not likely to be produced in the United States by 1985."<sup>43</sup> WESCO and EL Paso Natural Gas Company sought to place the financial risk of coal gasification onto the shoulders of the federal government and its taxpayers while securing the potential profits for their privately held corporations.

Although coal and coal gasification companies in the San Juan Basin modified their discourse during the 1970s in ways that made their coal industries appear as solutions for the energy crises, their discourse also remained consistent with earlier corporate narratives proclaiming that energy development equaled economic progress.

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<sup>43</sup> "Statement by Western Coal Gasification for Economic for Economic Development Subcommittee, U.S. Senate Committee on Public Works, Farmington, New Mexico, March 12, 1976 by R. L. Rudzik, General Manager, Pacific Coal Gasification Company," in US Congress, Senate, *Committee on Public Works, Impact of Energy Development on Northwestern New Mexico: Hearings*, 163-164. For El Paso's call for federal loan guarantees see Sam Smith, Vice President, to the Honorable Joseph M. Montoya, 30 March 1976, in US Congress, Senate, *Committee on Public Works, Impact of Energy Development on Northwestern New Mexico: Hearings*, 149-151.

Sam Smith, vice president of El Paso Natural Gas Company, proclaimed that his company's gasification project had the purpose "not merely to minimize the difficulties that might arise in San Juan County but also to maximize the educational, cultural, and economic benefits to the Navajo Nation and to the people residing in the neighboring areas." While Smith was unclear about how his company's coal-gasification project would bring educational and cultural benefits to the Navajo, he spent much time extolling the economic benefits that would come with coal gasification: up to 3,500 construction jobs, increased mining jobs, employment at the coal gasification plant, goods and services locally purchased by the company, and tax revenue generated by the plant. R. L. Rudzik, general manager for WESCO, touted these same economic benefits.

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Through statements made by these two corporate managers, it is obvious that they viewed the potential for economic progress from coal gasification as far outweighing the potential for social and environmental damage. They gave little attention to the environmental costs of such large-scale energy development. Rudzik implied that money alone could solve the environmental impacts of coal gasification, saying that some \$150 million of WESCO's estimated \$850 million gasification project

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<sup>44</sup> "Statements of Sam Smith, Vice President, El Paso Natural Gas Co., and Robert Rudzik, General Manager, Western Gasification Co." in *Ibid.*, 141, 143-144; and "Statement by Western Coal Gasification for Economic for Economic Development Subcommittee U.S. Senate Committee on Public Works, Farmington, New Mexico, March 12, 1976 by R. L Rudzik, General Manager, Pacific Coal Gasification Company," in *Ibid.*, 160-161.

“has been earmarked solely for environmental protection.”<sup>45</sup> And Smith only briefly mentioned that an environmental impact statement had been prepared for his company’s gasification project before giving a detailed outline of the economic benefits of his gasification program. Both Rudzik and Smith also described how their companies could manage the social changes unleashed by coal gasification by building a new town on the Navajo Reservation where laborers could reside and civic services would be provided. Both El Paso Natural Gas and WESCO jointly commissioned feasibility studies for establishing this new town. Smith promoted it as progress incarnate: “[A new town] would be economically self-sufficient, permanent in nature, and have the capability to offer continually expanding opportunities for the Navajo people.”<sup>46</sup> While Smith and Rudzik promoted the economic benefits of their industries, they omitted much discussion about the environmental effects of their industries and suggested that they could socially engineer a new town to minimize the cultural and social changes that their industries threatened to unleash.

From the early 1960s and throughout the 1970s, coal energy development on the Navajo Reservation unleashed or threatened to unleash major social and environmental changes. The combination of the Navajo Mine and the Four Corners

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<sup>45</sup> “Statement by Western Coal Gasification for Economic for Economic Development Subcommittee, U.S. Senate Committee on Public Works, Farmington, New Mexico, March 12, 1976 by R. L Rudzik, General Manager, Pacific Coal Gasification Company,” in *Ibid.*, 161.

<sup>46</sup> “Statements of Sam Smith, Vice President, El Paso Natural Gas Co., and Robert Rudzik, General Manager, Western Gasification Co.,” in *Ibid.*, 142. “Statements of Sam Smith, Vice President, El Paso Natural Gas Co., and Robert Rudzik, General Manager, Western Gasification Co.,” in *Ibid.*, 142-148, especially 142-144 for economic benefits and ability to create a new town in an orderly way; and “Statement by Western Coal Gasification for Economic for Economic Development Subcommittee, U.S. Senate Committee on Public Works, Farmington, New Mexico, March 12, 1976 by R. L. Rudzik, General Manager, Pacific Coal Gasification Company,” in *Ibid.*, 160-65, especially 160-161 for economic benefits of coal gasification.

Power Plant changed the legal control of land, altered the land surface through strip mining, consumed vast quantities of water, and emitted large amounts of pollution into the air and water. The scale of the Navajo Mine and the Four Corners Plant— respectively one of the largest surface mines in the western hemisphere and one of the largest power plants west of the Mississippi—made these environmental effects particularly pronounced in the Four Corners region. And proposed coal gasification projects in the nearby area presented an even greater coal-energy-development program.

Energy corporations largely downplayed the environmental and social consequences of their energy industries, and they altered their rationales for large-scale development over time. When environmental legislation was passed, they proclaimed that they could develop technologies to correct problems like de-vegetation from strip mining and air pollution. When the energy crisis arrived, they offered their industries as a solution. But what remained constant in their rationale was a discourse of social and economic progress that their industries brought to both the hinterland Navajo Reservation and industrialized cities. As we shall see in the following chapter, local Native American communities that were the most impacted by this development, together with Native American activist and environmental-activist organizations, challenged the corporate discourse that energy development could be equated with symmetrical social and economic progress.



## CHAPTER 2

### ENERGY DEVELOPMENT AS PROGRESS OR CHAOS: OPPOSITION TO ENERGY DEVELOPMENT ON THE NAVAJO RESERVATION

Although undoubtedly many Navajos went along with energy development in hopes of securing stable employment, many also came to contest this energy development, particularly during the early- to mid-1970s. Local community and Native American groups protested intensified energy development during this period based on a variety of grounds: neo-colonialism, lack of control over local resources, and environmental concerns over energy development. Environmental groups also opposed energy development primarily based on environmental factors with different environmental groups having varying concerns over how energy development would impact Navajos living in the area. Ultimately, environmental groups failed to unite effectively their oppositional efforts with Navajo communities and Indian rights organizations that opposed energy development. Despite the absence of a united front of resistance, opposition to energy development, whether derived from indigenous people or environmental groups, conflicted with the corporate discourse of economic progress and a belief that science and technology could control for the environmental problems unleashed by energy development.

Lewis Etsitty, the council member representing the Nenahnezad Chapter of the Navajo Reservation, brought to light the environmental and social consequences of energy development. Etsitty, strongly criticizing energy development, stated that “we [Navajos] see the so called ‘advantages’ of progress in the form of smog and haze and

grotesque scars left by strip mining.”<sup>1</sup> Etsitty outlined numerous reasons for his opposition to the Four Corners Plant and Navajo Mine that came to dominate his community: pollution, failed reclamation, and employment discrimination against Navajos. Native American opponents of energy development, like Etsitty, fell into two primary groups: locals, who would be most impacted by energy development, and Native American activist groups. The local opposition largely focused on a loss of control over the land and resources upon which their livelihoods depended. Activist opposition emphasized issues of tribal sovereignty, neo-colonialism, and corrupted tribal politics. And both groups challenged the corporate discourse that intensive energy development could take place in a fashion that was both environmentally and socially responsible.

Community members affected by the Four Corners Plant and Navajo Mine expressed concerns over energy development similar to Etsitty. The Bureau of Reclamation, however, did not find the printing of these concerns pertinent to its public-hearing process for an environmental statement addressing modifications to the Four Corners Plant and expansion of the Navajo Mine. The reason, the Bureau claimed, was that these concerns did not address the EIS but rather articulated “dissatisfaction for the disruption to their way of life brought about by the existing Navajo mine and Four Corners powerplant.” With this rationale, the Bureau erased what might have been an illuminating record of community contestation over corporate energy

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<sup>1</sup> Lewis Etsitty, “Statement on the Proposed Modifications to the Four Corners Powerplant and the Navajo Mine by Lewis Etsitty, Councilman, Nenahnezad Chapter, Navajo Nation,” in USDI, BR, *Final Environmental Statement, Proposed Modification of Four Corners Powerplant and Navajo Mine, San Juan County, New Mexico*, vol. 2 (Washington, D.C.: GPO, 1976), 10.110 and 10.111.

development. What historians are left with instead are local community members' reservations about energy development that have been tersely outlined and synthesized by the Bureau. If the Bureau can be trusted, these community concerns over energy development fall into what I have placed into three broad categories: economic, environmental, and political. Economic issues related to energy development revolved around just compensation for grazing lands, water rights, and mineral resources. Environmental considerations centered on corporations' ability to reclaim strip-mined lands and control for pollution. And political criticisms centered on outsiders (corporate and governmental) making land-use decisions without first consulting local community members.<sup>2</sup>

The accounts of four Navajo shepherders who lived next to the Navajo Mine—Emma Yazzie, Jerome Dodge, Elsie Dodge, and Hazel Barber—illuminate how some local community members viewed large-scale energy development as a threat to their livelihoods and health. Yazzie recounted that a rushed vote to allow for Utah Construction to strip-mine on grazing lands at a Nenahnezaad Chapter meeting left only her and two others in opposition. She recalled that officials from Window Rock arrived two days after the vote with a check of \$229.79 and about a month later she received another \$100 check for a road leading to the Four Corners Power Plant. She stated that pollution from the Navajo Mine and Four Corners Plant sickened her sheep, horses and goats, many of which died. Her record also indicates that a lack of access to grazing

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<sup>2</sup> USDI, BR, *Final Environmental Statement, Proposed Modification of Four Corners Powerplant and Navajo Mine, San Juan County, New Mexico*, vol. 2, 10.183 and 10.184.

jeopardized her animals. “They only gave me a little piece of land to live on and a little land, what more do they want from me?” Yazzie questioned.<sup>3</sup>

Jerome Dodge, Elsie Dodge, and Hazel Barber identified the Power Plant and the Navajo Mine as causing not only problems with their animals but also with their own health. Dodge said that snot and blood ran out of the noses of his sheep, a condition that Yazzie also identified in her sheep. But Dodge also said that he became sick with headaches and constant fatigue over a four-month period. Elsie, Jerome’s wife, said she also became sick with a cold and a running nose like her sheep. And according to Hazel Barbor, her sheep were healthy and fed on abundant grasses before the strip mining and power plant came. But since the mine cut into the earth, black dust spread across the land and eventually filtered its way into her mouth. She said that fifteen of her sheep died and that this same pollution killed her mother. It is difficult to determine from these accounts alone whether the mine and power plant caused the ailments and deaths recounted by these individuals. But it is clear that these people came to understand environmental transformations unleashed by energy development as threats to their animals and themselves.<sup>4</sup>

Although it is difficult to ascertain how intensively locals contested the original coal leases and Four Corners Power Plant due to limited historical sources, the record of

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<sup>3</sup> “Statement Made by Mrs. Emma H. Yazzie (Lives 2,000 Feet North of Navajo Mine),” n.d., NIYCR, MSS 701 BC, box 25, folder 26.

<sup>4</sup> “Statement by Jerome Dodge, Sheep Camp 3 ½ Miles North of Navajo Mine, in Fruitland, New Mexico, Near Navajo Mine (Utah International) and APS (Arizona Public Service Company)” and “Statement Made by Mrs. Roy Barber (Hazel Barber), Sheep Camp 3 Miles North of the Navajo Min,” n.d., NIYCR, box 25, folder 26.

contestation over coal gasification in this region during the early- to mid-1970s is abundant. During this period, community and activist resistance ignited against governmental-corporate plans for gasification plants to be built near Burnham. These plants would have been fueled from coal mined at nearby Navajo Mine and the El Paso/Consolidation coal leases. As with the opposition over the Navajo Mine and the Four Corners Plant, Indian community and activist resistance of coal gasification centered on economic, political, social, and environmental factors. Some opponents of gasification, like Etsitty, identified the problems from existing energy development as having already created enough problems without compounding these problems with increased energy development in the region. Etsitty suggested that “[we] put our efforts into solving the problems we now have [with the Four Corners Plant and Navajo Mine] before we go into projects [gasification] which will not only add to the present problems but expand and increase with new problems.”<sup>5</sup>

But in coal gasification, energy companies saw great energy and economic potential. Energy companies devised coal-gasification projects as a means to supplement the already robust natural-gas industry in the San Juan Basin with synthetic natural gas. Corporate development of the San Juan Basin’s natural-gas resources, like coal mining and electricity generation, integrated this hinterland region into macro-regional energy markets. The natural-gas economy of the region became firmly established in 1951 when El Paso Natural Gas Company constructed a 990-mile pipeline

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<sup>5</sup> “Statement on the Proposed Modifications to the Four Corners Powerplant and the Navajo Mine by Lewis Etsitty, Councilman, Nenahnezad Chapter,” in *Final Environmental Statement, Proposed Modification of Four Corners Powerplant and Navajo Mine, San Juan County, New Mexico*, vol. 2, 10.122.

stretching from the San Juan Basin to Southern California, where it tapped into an additional 220 miles of pipeline built by Southern California Gas and Southern Counties Gas companies. This gas was funneled into depleted oil fields for two reasons: it pressurized remaining viscous oil deposits for extraction, and the fields stored the natural gas before it was distributed to residential and industrial consumers throughout southern California. Even more San Juan Basin gas flowed to California energy companies when El Paso contracted with the utility company Pacific Gas, which served San Francisco markets.<sup>6</sup> And in 1955, the Federal Power Commissions approved Pacific Northwest Pipeline Corporation's proposal to build a 1400-mile-long natural gas pipeline from the San Juan Basin to the northwestern markets in Idaho, Oregon, and Washington.<sup>7</sup> Urban and industrial demands for natural gas energy, as with electricity, only went up with each of the decades proceeding World War II. New discoveries of natural gas reserves, such as that of Alaska's Prudhoe Bay in 1970, kept pace with continually increasing demands for natural gas until 1968. But after this year, natural gas production outpaced newly proven natural-gas reserves, which, combined with the Arab Oil Embargo of 1973 and an entrenched urban dependence upon fossil fuels, fostered a mentality of energy shortages.<sup>8</sup> Attempting to maintain the energy paradigm of continually increasing natural-gas production, continually increasing energy

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<sup>6</sup> For discussions of the El Paso pipeline, see James C. Williams, *Energy and the Making of Modern California* (Akron, Ohio: University of Akron Press, 1997), 275-276; Gomez, *Quest of the Golden Circle*, 36-41; Willis, "A Socio Economic History of the Oil and Gas Industry of the San Juan Basin, 1890-1950," 66-77.

<sup>7</sup> Gomez, *Quest of the Golden Circle*, 58-61.

<sup>8</sup> For a discussion of natural-gas demand, production, and reserves see USDI, BR, *El Paso Coal Gasification Project, Final Environmental Statement*, vol. I, 1-9. For a discussion of coal gasification in context of the 1973 Arab Oil Embargo and increased calls for development domestic coal reserves, see USDI, BR, *Western Gasification Company (WESCO) Coal Gasification Project and Expansion of Navajo Mine by Utah International, Inc., San Juan County New Mexico*, vol. I, 1-6 through 1-9.

consumption, and continually increasing gas reserves, corporations like El Paso Natural Gas, WESCO, and Utah International promoted their abundant coal leases on the Navajo Reservation as a potential supply of natural gas—provided, of course, that they could transform their coal into synthetic natural gas.

Local Navajo communities that would be most affected by coal-gasification plants and mining operations opposed gasification for a variety of social, economic, and environmental reasons. As early as 1973, the Burnham community passed two separate resolutions rejecting El Paso's and WESCO's coal-gasification projects, which included gasification plants near their town. The Chapter House's official reason for rejecting coal gasification centered on four issues: outsider control rather than tribal control over coal resource development; just compensation for Indian coal; solutions for people whose homes and grazing lands would be destroyed by coal strip mining; and the energy industry's poor track record in the region.<sup>9</sup>

In a third Burnham Chapter resolution, passed two years later, both environmental and economic factors were listed as reasons for opposing El Paso's and WESCO's coal-gasification projects. The resolution itself passed with some 114 voters opposing gasification development while 14 favored it. Nearby community leaders from the Shiprock and Nenahnezad Chapters, who were also building opposition against coal gasification, spoke at the resolution hearing. Shiprock Tribal Council representative Fred Johnson, one of the most vocal opponents of coal gasification, listed environmental

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<sup>9</sup> See Burnham Chapter News Release, 21 April 1975, Redhouse Papers, box 1, folder 13 (1 of 3). "Burnham Chapter Rejects Coal Gasification Plan," newspaper clipping, n.d., Redhouse Papers, box 1, folder 13 (1 of 3).

factors, such as water consumption and uncertain reclamation processes, among his reasons for opposing this development. Etsitty, the chapter head for the Nenhnezad Chapter, cited employment discrimination at Arizona Public Service Company's power plant as an indication of what gasification development might mean for Navajos hoping to secure jobs in a new industry. These criticisms directly challenged corporate discourses extolling the ability of science and technology to control for environmental impacts caused by energy production as well as corporate discourses that energy development would bring symmetrical economic benefits and progress to the larger community.<sup>10</sup>

Navajo communities located near Burnham passed their own resolutions opposing coal gasification. The Shiprock Resolution against coal gasification cited very specific economic, social, political, and environmental reasons for opposing coal gasification and related mining activity. The Shiprock resolution, passing by a vote of 129-0, pointed at the political disparity of coal gasification being planned without "the full knowledge of the people most affected, the local people." The resolution outlined concerns that coal gasification would foster social disruption at the local level by fueling a boom-type economy and would displace families and sheepherders without just compensation. Opposition voiced in the resolution also resisted energy development based on environmental factors, such as intensive water use and destruction of grazing lands caused by strip mining. The most incisive language articulating opposition was

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<sup>10</sup> See Burnham Chapter News Release, 21 April 1975, Redhouse Papers, box 1, folder 13 (1 of 3). "For Third Time, Burnham Says No to Gasification," newspaper clipping, n.d., Redhouse Papers, box 1, folder 10 (1 of 3).



reserved for mining reclamation. The resolution states, “[S]trip mining for coal totally destroys the land and to date, those companies presently operating on the reservation, in spite of their experimental [re-vegetation] plots, and great talk of reclamation have not shown that any land can be reclaimed in the semiarid land on which the strip mining is done.” While corporations expressed a belief that science would come up with a solution for re-vegetating strip-mined lands, local communities had to bear the immediate consequences of de-vegetated lands that could not support grazing animals and exacerbated erosion. Other nearby Navajo communities—Sheepsprings, Nenahnezad, and Bebicato—passed similar resolutions opposing coal gasification.<sup>11</sup>

The National Indian Youth Council (NIYC) bolstered local community opposition to large-scale coal gasification and intensified strip-mining operations. NIYC formed as an intertribal activist organization during the early 1960s in Gallup, New Mexico. Politically, NIYC sat somewhere between the more moderate National Congress of American Indians and the more radical American Indian Movement. By the 1970s, NIYC focused its energy on activism centering on issues of sovereignty, self-determination, cultural survival, and treaty obligations. NIYC strongly opposed coal gasification based

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<sup>11</sup> Resolution, “The Shiprock Chapter of the Navajo Nation Rejecting the Proposed Gasification Plain in the Burnham, Navajo Nation, Area,” 23 March 1975, Redhouse Papers, box 1, folder 13 (1 of 3). “Resolution of the Sheep Springs Chapter, Navajo Nation, Supporting the Position of the Burnham Chapter in the Rejection of the Proposed Coal Gasification Plants and Strip Mining by WESCO and El Paso Natural Gas Company,” 1 February 1976, Redhouse Papers, box 1, folder 13 (1 of 3). National Indian Youth Council, “Since February, the Sheep Springs, Nenanezaad, and Beclabito chapters all passed unanimous resolutions opposing the construction of any and all gasification plants on the reservation,” Redhouse Papers, box 1, folder 13 (1 of 3).

upon these issues, while also incorporating environmentally oriented strategies for contesting this massive energy development plan.<sup>12</sup>

Throughout its campaign against coal gasification, NIYC linked this modern form of resource exploitation with colonial processes that exploited indigenous people and land. An NIYC statement on coal gasification declared that “we represent a barrier to a potential six billion dollar capital investment . . . [and] a barrier to the most powerful government in the world and its profit-motivated interests.” NIYC connected this modern resource exploitation of indigenous lands to a broader critique of American colonialism: “Two hundred years ago, Indian people were killed because they had something that the white man wanted. Two hundred years later, we still have something that the white man wants.” John Redhouse, a Navajo from Farmington and the associate director of NIYC who led much of the organization’s opposition against gasification, stated that taxes and royalties funneling from Indian resources to “non-Indian entities” constituted a “colonialist-type situation.”<sup>13</sup>

NIYC centered much of its oppositional efforts against coal gasification on a series of federal-loan-guarantee bills that would have facilitated domestic synthetic fuel

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<sup>12</sup> For a general historical overview of the NIYC, see Shreve, “Red Power Rising: the National Indian Youth Council and the Origins of Intertribal Activism.” Pages 266-67 discuss the activism focus of the NIYC from the late 1960s to the 1970s. For brief background on the political position of NIYC, see also Bradley Glenn Shreve, “Up Against Giants: The National Indian Youth Council, the Navajo Nation, and Coal Gasification, 1974-1977,” *American Indian Culture and Research Journal* 30, no. 2 (2006): 18. In this article, Shreve states that NIYC supported local communities in their opposition to coal gasification. Shreve generally looks at coal gasification in this article through the lens of Red Power and Native American activism during the 1970s.

<sup>13</sup> National Indian Youth Council, Inc., News Release, 23 February 1976, Redhouse Papers, box 1, folder 13 (1 of 3). “National Youth Leader against Coal Plants,” *The New Mexican*, 7 March 1976, copy in Redhouse Papers, box 1, folder 13 (1 of 3).

production—including WESCO’s and El Paso’s gasification plans on the Navajo Reservation. State and federal governmental officials—Governor Jerry Apodaca, Congressman Manuel Lujan Jr., Senator Pete Domenici, and Senator Joseph Montoya—supported and sometimes co-authored these bills, which were actively lobbied for by corporate interests including WESCO and El Paso. These bills would have facilitated coal gasification by passing legislation that would make the federal government responsible for the financial risks of private ventures for building coal gasification plants. NIYC criticized this as “represent[ing] the worst in corporate socialism and the government’s neo-colonial policy towards Indian tribes with a significant energy resource base.” NIYC went on to argue that coal gasification development would break Indian treaty rights and would threaten the cultural survival of not only Navajos but Indian people everywhere. NIYC argued that if the largest Indian tribe in the nation—the Navajo tribe—“begins to succumb to the combined corporate and governmental pressures” for large-scale resource extraction, then “other tribes might be forced to do likewise.” NIYC articulated an oppositional discourse to gasification that targeted both corporations and the federal government as colonial threats to indigenous people.<sup>14</sup>

NIYC also centered on a variety of environmental issues—including human health, water use, reclamation feasibility, and environmental protection laws— to oppose coal gasification. Pollution from the proposed coal-gasification plants, NIYC

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<sup>14</sup> National Indian Youth Council, Inc., “After the U.S. House of Representatives voted . . .” 30 December 1975, Redhouse Papers, box 1, folder 13 (1 of 3). “Montoya Pledges to Fight for Coal Gasificaigon Loans,” newspaper clipping, n.d., Redhouse Papers, box 1, folder 13 (1 of 3). “\$6 Billion Program Would Boost State,” newspaper clipping, n.d., Redhouse Papers, box 1, folder 13 (1 of 3). John Redhouse to William McCormick Jr., 21 June 1976, Redhouse Papers, box 1, folder 13 (1 of 3 and 2 of 3).

asserted, would be emitted in high enough quantities to affect all plant, animal, and human life in the vicinity. Citing a NASA physicist's testimony at an environmental impact hearing, NIYC explained that lead and mercury levels would be high enough in a 13-mile radius that people living within that zone would have to be relocated from areas near the gasification plants. NIYC also cited a study conducted by the Scientist Institute for Public Information, presented at a Congressional hearing, asserting that coal gasification and cancer rates were related. Whereas corporations employed their own scientific data to ensure that energy development could be achieved while protecting the natural environment and human communities, NIYC utilized another set of scientific studies as a means for resisting coal gasification.<sup>15</sup>

The issue of water use repeatedly appeared in NIYC literature opposing coal gasification. NIYC pointed to how treaty obligations for water would be violated by coal gasification industries that would consume up to 10,000 acre-feet of water per plant. NIYC contended that the gasification industry's consumption of water would jeopardize the Navajo Indian Irrigation Project. This irrigation project would convert up to 110,000 acres of arid desert lands into agricultural lands, and, according to NIYC literature, was entitled to some 508,000 acre feet of water per year. While the Navajo Indian Irrigation Project itself would have constituted a major restructuring—and even destruction—of the environment, disturbing even more total surface acres than strip mining, NIYC supported this form of land use over coal gasification. It argued that “[u]nlike

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<sup>15</sup> National Indian Youth Council, Inc., “What Is Coal Gasification?” n.d., Redhouse Papers, box 1, folder 13 (3 of 3). National Indian Youth Council, Inc., News Release, 28 January 1977, Redhouse Papers, box 1, folder 13 (2 of 3).

gasification or stripmining, the [irrigation] project will not destroy land or deplete its resources . . . [but rather] it will make renewable use of the land.” NIYC also supported the irrigation project over gasification because local Navajos would have more control over this form of development and it would primarily benefit Indian people rather than outsider corporate interests.<sup>16</sup>

Like local Navajo communities, NIYC also challenged coal gasification based on the feasibility of reclaiming strip-mined lands. In his statement to the US Senate Subcommittee on Water Resources, Redhouse argued that reclamation processes would make coal gasification an even more water intensive activity. Redhouse stated that reclamation would require massive amounts of water in order to reestablish vegetation communities. Citing a National Academy of Sciences study reporting that reclamation in the Four Corners region would be a slow and difficult process due to low annual rainfall rates, Redhouse attempted to bolster his position that reclamation in this region was impractical if not impossible. Redhouse also criticized Utah International’s re-vegetation test plots, saying that the company has not “demonstrate[d] that they can reclaim the land on the same level that they have stripmined it . . . largely due to the lack of water needed for successful reclamation.” Redhouse employed reclamation laws—or, rather, the infeasibility of reclamation—as a means to stop coal gasification, ultimately

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<sup>16</sup> Indian Youth Council, Inc., “What Is Coal Gasification?” n.d., Redhouse Papers, box 1, folder 13 (3 of 3). National Indian Youth Council, Inc, “BIA Statement and NIYC Response,” Redhouse Papers, box 1, folder 13 (2 of 3). Department of the Interior, Bureau of Indian Affairs, “Gasification Fact Sheet,” 7 April 1977, Redhouse Papers, box 1, folder 13 (2 of 3).

requesting New Mexico senator Pete Domenici to exempt arid areas from the synthetic fuels loan-guarantee bill that Domenici co-sponsored.<sup>17</sup>

NIYC also emphasized environmental factors of the desert that made strip mining appear inconsistent with the desert environment. In a news release, NIYC stated that most of the annual precipitation in the areas to be mined came in sudden summer thunderstorms, causing flash floods that “result in uncontrolled erosion that can disrupt any reclamation efforts.” NIYC also said that high-wind velocities in the area would make “the proposed resurfacing, recondition [sic], and reseeded procedures” difficult. And the NIYC news release emphasized how strip mining would threaten the “desert’s fragile biological balance” by “destroying the flora and fauna of the area . . . [and] the habitats of animals that are listed as endangered species.” NIYC’s overall message suggested that the desert region was the worst possible place for strip mining due to its environmental characteristics of severity, aridity, and fragility—all of which would make mining reclamation difficult if not impossible.<sup>18</sup>

But NIYC’s attempt to stop coal gasification and strip mining perhaps most centered on illuminating the inherent contradiction between large-scale energy development and numerous environmental and cultural laws. NIYC outlined a litany of these laws in a news release. While a few of the laws—like the Antiquities Act of 1906

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<sup>17</sup> Statement by John Redhouse to U.S. Senate Subcommittee, Water Resources, 11 April 1977, Redhouse Papers, box 1, folder 13 (2 of 3). National Indian Youth Council, Inc., “The Western Gasification Company (WESCO) presented a draft of its coal gasification plant site least to the Navajo Tribal Council . . .,” 29 June 1977, Redhouse Papers, box 1, folder 13 (2 of 3).

<sup>18</sup> National Indian Youth Council, Inc., “Supplemental with News Release,” 10 February 1978, Redhouse Papers, box 1, folder 13 (3 of 3).

and the Historic Sites Act of 1935—dated to earlier periods, most of the laws had been enacted only recently. These included the National Historic Preservation Act of 1966, the National Environmental Policy Act of 1969 (NEPA), and the Archaeological and Historical Preservation Act of 1974. Industrialists, as discussed earlier, attempted to make large-scale energy development appear consistent with environmental legislation by claiming that scientific and technological measures would curb negative impacts caused by energy generation. NIYC, however, employed environmental regulations to make development and environmental and cultural-resource protection appear mutually exclusive from each other. NIYC and thirteen Burnham residents even used environmental legislation as a basis for filing a lawsuit against the secretary of the interior, the assistant secretary of interior for Indian Affairs, and the Bureau of Reclamation. The lawsuit charged that these governmental officials, in their oversight of land and resources slated for coal gasification, violated their own laws—including NEPA, the National Historic Preservation Act, and the federal government trust for Indian lands and resources.<sup>19</sup>

Environmental groups not affiliated with Native American activist organizations varied in degree of and method for opposing coal gasification. At one end of the spectrum, environmental organizations did not oppose coal gasification. At the other end of the spectrum, they linked coal gasification to issues of environmental injustice. The New Mexico Wildlife Federation sat at the most conservative end of the spectrum

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<sup>19</sup> National Indian Youth Council, Inc., “Supplemental with News Release,” 10 February 1978, Redhouse Papers, box 1, folder 13 (3 of 3). “Stop Stripming: Burnham Residents Seek Coal Activity End,” newspaper clipping, 11 February 1978, Redhouse Papers, box 1, folder 13 (3 of 3). National Indian Youth Council, Inc, “Press Statement by John Redhouse,” 13 February 1978, Redhouse Papers, box 1, folder 13 (3 of 3).

and did not actively oppose coal gasification, while Southwest Research and Information Center sat at the most radical and oppositional end of the spectrum. And the Sierra Club sat somewhere in the middle.

The New Mexico Wildlife Federation's primary concern with gasification centered on recreation (especially hunting and fishing) and access to public lands where its members could engage in this recreation. This organization said, "Since the area within the [WESCO's] mine-plant installation has little wildlife or wildlife habitat, little damage will result from their installation." However, the New Mexico Wildlife Federation did view gasification as a threat, but not for environmental reasons one might readily expect. This group complained: "Transfer of public lands to the Navajo Tribe will prohibit access to the land by the public. It would also be discrimination to provide land for displacing Navajo's grazing use at the expense of displacing other ranchers now leasing the public lands under provision of the Taylor Grazing Act." The New Mexico Wildlife Federation gave the rationale that because the Navajo Tribe would be the main beneficiary of coal gasification—in terms of employment and royalties—the tribe and not the federal government should come up with the solution of where displaced Navajos should go. Showing how out-of-touch this organization was with Navajo activists, the New Mexico Wildlife Federation stated that its only other concern with the WESCO gasification plants was the potential impact they would have on recreational fishing on the San Juan River. But, as we shall see in chapters 3 and 4, the National Wildlife Federation (the New Mexico Wildlife Federation's parent organization) became particularly active in opposing coal energy development on public lands in the



Chaco-Bisti region only a few years later. This about-face reflected this organization's overriding concern with public lands issues and recreation rather than social or environmental justice issues.<sup>20</sup>

Other environmental groups opposed coal-gasification projects on the Navajo Reservation in accordance more with Navajo activists than with the New Mexico Wildlife Federation. Their opposition, like that of Redhouse and NIYC, challenged scientific studies that modeled energy development and water consumption, air pollution, mining reclamation, and social disruption. Peter Montague, with the Southwest Research and Information Center based in Albuquerque, cited figures utilized by both corporations and the Bureau of Reclamation to show that Colorado River water was over-allocated by more than 200,000 acre-feet per year. In light of these figures, Montague pointed out that "gasification plants will not be able to operate without drawing upon water supplies earmarked for, but not yet delivered to, the Navajo Indian Irrigation Project . . . [presenting] a choice the Navajo people have not yet realized that they are being asked to make."<sup>21</sup>

Montague leveled similar critiques of gasification based on air pollution and the feasibility of mining reclamation. He argued that corporate and Bureau of Reclamation studies inadequately addressed toxic element and sub-micron particulate emissions

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<sup>20</sup> Bill Schurkens, San Juan Wildlife Federation Director, to David L. Crandall, Director of Upper Colorado Region, Bureau of Reclamation, 17 February 1975, in USDI, BR, *Western Gasification Company (WESCO) Coal Gasification Project and Expansion of Navajo Mine by Utah International Inc.*, vol. 2, 10-252 and 10-253.

<sup>21</sup> Peter Montague, Southwest Research and Information Center, "WESCO Comment," in USDI, BR, *Western Gasification Company (WESCO) Coal Gasification Project and Expansion of Navajo Mine by Utah International Inc.*, vol. 2, 10-246 and 10-247.

from gasification plants. Regarding mining reclamation, Montague cited a 1974 study conducted by the National Academy of Sciences (the same study Redhouse cited) suggesting that strip-mining land in the arid western states might not be possible. While questioning the feasibility of reclaiming strip-mined lands, Montague argued that if strip mines could be reclaimed then they should meet pre-1868 environmental conditions.<sup>22</sup> Montague said that this was necessary because following the creation of the Navajo reservation in 1868, the Navajo population had increased without an increased land base, which exacerbated overgrazing conditions. Montague, therefore, argued that mining companies should commit to spending on land reclamation at least 10% of the revenue they generated from coal strip mining, which, by his estimates, amounted to roughly \$20,000 per acre.<sup>23</sup>

The Sierra Club, a much larger and better-known environmental organization than the Southwest Research and Information Center, employed a similar attack on gasification. The Rio Grande Chapter of the Sierra Club, based in Santa Fe, submitted comments to the WESCO environmental impact statement. It challenged WESCO's coal gasification proposal on four fronts: air pollution, water supply and pollution, boom-town effects, and strip-mining effects. A different specialist prepared a report on each of these four issues. Michael Williams, touting a Ph.D., challenged WESCO's science by providing his own study of air pollution. He stated that the WESCO environmental

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<sup>22</sup> Peter Montague, "WESCO Comment," in *Western Gasification Company (WESCO) Coal Gasification Project and Expansion of Navajo Mine by Utah International*, vol. 2, 10-247 and 10-248.

<sup>23</sup> Peter Montague, Southwest Research and Information Center, "Comments by Peter Montague, Ph.D., on the El Paso Gasification Project New Mexico Draft Environmental Statement," in USDI BR, *El Paso Coal Gasification Project, New Mexico, Final Environmental Statement*, vol. II (Washington, D.C.: Commissioner's Office, 1975), 10-192.

statement modeled air pollution inadequately. Williams argued that the WESCO environmental statement only addressed Sulfur Dioxide, Nitrogen Oxide, and particulate matter, while failing to look at hydrocarbons, photochemical oxidant, and reduced sulfur, all of which fell under state and federal environmental regulations. Williams also criticized the environmental statement study for data inconsistencies that formed the basis for air-pollution-modeling studies. And Williams finally criticized the WESCO environmental-impact-statement pollution study for not looking at enough variables pertaining to gasification emissions, such as air-terrain interaction and looping patterns of air and pollution.<sup>24</sup>

The Sierra Club also opposed gasification based on the plants' water consumption rates and the feasibility of mining reclamation. Henry Zeller, with the Water Resources Studies branch of the Sierra Club, argued that the water availability of the upper Colorado River was not well understood and that "different authorities making estimates are very likely to come up with different figures."<sup>25</sup> He then criticized the Bureau of Reclamation's figure that the San Juan River would support municipal and industrial withdrawals of 100,000 acre-feet per year until the year 2005. After 2005, Zeller points out that a new water contract would be required and could present a situation in which WESCO's gasification plant takes precedence over other water users. Zeller also criticized the Bureau of Reclamation for supplying fuzzy figures for the total

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<sup>24</sup> Michael Williams, Ph.D., The Rio Grande Chapter of the Sierra Club, "Comments on the Air Pollution Aspects of the WESCO Draft EIS," in USDI, BR , *Western Gasification Company (WESCO) Coal Gasification Project and Expansion of Navajo Mine by Utah International Inc.*, vol. 2, 10-257 to 10-261, especially 10-258 and 10-260; also see 10-266 to 10-279.

<sup>25</sup> Henry Zeller, The Rio Grande Chapter of the Sierra Club, "Comments on Draft EIS, Proposed Western Gasification Co Coal Gasification Project, Etc, New Mexico (INT DES 74-107)," in *Ibid.*, 10-284.

consumption of WESCO's gasification plants and raised questions as to the possibility that the plants would contaminate ground water.<sup>26</sup> George Dials, also with the Sierra Club, outlined the organization's concerns over the feasibility of mining reclamation. Dials criticized the proposed mining reclamation plan found in the WESCO environmental statement for not discussing irrigation requirements for reestablishing vegetation communities, not addressing the possibility for mining to disrupt drainage networks, not coherently defining the term reclamation, and for equivocating on the need to retain topsoil of strip mined lands.<sup>27</sup>

The Sierra Club viewed gasification as not only an environmental threat, but also a social threat. Hildreth Barker, an architect affiliated with the Sierra Club, outlined potential social affects to the community from large-scale resource development and a massive influx of people. Barker estimated that some six thousand constructions workers and an additional three thousand service workers would move to the area to build WESCO's gasification plant. She then multiplied this by the average household size (3.5 persons) to get the figure of 33,000 additional people moving to the area as soon as the gasification project began. Barker argued that this sudden population increase would "apply horrendous pressure to school systems, health facilities, [and] retail services" and an "unbearable burden on the cities of Farmington and Shiprock in terms

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<sup>26</sup> Henry Zeller, The Rio Grande Chapter of the Sierra Club, "Comments on Draft EIS, Proposed Western Gasification Co Coal Gasification Project, Etc, New Mexico (INT DES 74-107)," in *Ibid.*, 10-284 to 10-286.

<sup>27</sup> George E. Dials, The Rio Grande Chapter of the Sierra Club, "Comments on WESCO's Draft Environmental Statement on its Coal Gasification Project," in *Ibid.*, 10-308 and 10-309.

of providing governmental services for these new people.”<sup>28</sup> Barker’s analysis of the social impacts from coal gasification, however, failed to address the fact that many of the off-reservation communities, such as Farmington, supported coal gasification whereas communities on the reservation where the coal gasification would have taken place largely opposed the gasification project.

Others in the Sierra Club only marginally connected coal gasification to a case of environmental injustice, but the Southwest Research and Information Center made a much stronger case that gasification would lead to environmental injustice. The Sierra Club argued that the Bureau of Reclamation and corporations needed to understand better how strip mining would affect Navajo sheep herders who might not only be displaced by mining activities but also overgrazing on other parts of the reservation that could be more intensively grazed by people displaced from mined areas.<sup>29</sup> Peter Montague with the Southwest Research and Information Center made a more direct case that environmental justice factored into coal gasification proposals. He believed that gasification facilities would result in greater economic benefits for non-Navajos. Citing a U.S. Civil Rights Commission hearing that took place in 1974 at Farmington, Montague said that “Navajos have many grievances regarding what they consider to be exclusion on racial grounds from the better jobs at the Navajo Mine and at the Four Corners power plant” despite the fact that these companies had legally binding hiring

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<sup>28</sup> Hildreth Barker, The Rio Grande Chapter of the Sierra Club, “Comments on the Impact on the Human Environment,” in *Ibid.*, 10-292 and 10-293.

<sup>29</sup> Dr. Michael D. Williams, Rio Grande Chapter of the Sierra Club, “Comments on the Cumulative Impact Section of the El Paso Gasification Draft Impact Statement,” in USDI, BR, *El Paso Coal Gasification Project, New Mexico, Final Environmental Statement*, vol. 2, 10-329.

agreements to give Navajos preference over others.<sup>30</sup> Beyond suggesting that the economic prosperity from coal gasification might result in unequal benefits generally running along ethnic lines, Montague argued that coal gasification specifically and energy development more generally was a “concerted assault on Navajo resources” that threatened to destroy the Navajo “as a distinct people, as a tribe, [and] as a unique culture.”<sup>31</sup> Although the Sierra Club and especially the Southwest Research and Information Center viewed energy development as both an environmental and a social injustice issue, the historical record, through its absence, suggests that these environmental groups did not collaborate much with the local Navajo communities and Indian activist groups who also opposed coal gasification.

Whereas environmental groups and Indian opponents to energy development failed to unite over coal gasification during the 1970s, the issue of coal gasification itself exacerbated factionalizing within the Navajo Nation. Members of local Navajo communities and the NIYC opposed coal gasification, but the tribal government generally supported this energy development. However, this governmental support for gasification must be qualified since the tribal president and the tribal council oscillated between direct opposition, tentative reservation, and full support for coal gasification. The tribal president Peter MacDonald, for example, stated that he supported economic development but not at the expense of Navajo sovereignty and rights insured by past treaties. MacDonald expressed his reservation toward coal gasification, saying that with

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<sup>30</sup> Peter Montague, Southwest Research and Information Center, “Comments by Peter Montague, Ph.D., on the El Paso Gasification Project New Mexico Draft Environmental Statement,” in *Ibid.*, 10-193.

<sup>31</sup> *Ibid.*, 10-209; also see 10-220.

previous energy development “we [the Navajos] gave up a great deal of our resources such as land, water and minerals and only got crumbs for our people while vastly improving the lives of others.” But MacDonald, who joined and eventually became chairman of the Council of Energy Resource Tribes (CERT), an organization that postured something akin to OPEC for Indian Reservations holding energy resources, strongly advocated for energy development on the Navajo Reservation throughout the 1970s. Eventually MacDonald came to support El Paso’s coal gasification proposal. He felt that renegotiated leases could remedy corporations’ past exploitation of Navajo land and resources.<sup>32</sup>

MacDonald asserted that economic progress outweighed the social costs that coal gasification and other energy development presented. Expressing a discourse of social progress, MacDonald proclaimed: “Maybe it [energy development] did destroy some features of the Navajo culture. Maybe we don’t need industry here but I don’t see too many people going back to weaving baskets. The majority will understand the need for economic progress on the reservation.” MacDonald also stated that he would welcome energy development if the tribe could “tame the monster” by controlling for pollution and land disturbance. And MacDonald viewed energy development as beneficial so long as the Navajo Nation avoided bad leasing agreements, such as the existing coal leases on the reservation that had royalties as low as fifteen to ten cents per ton of coal extracted on the reservation compared to six to ten dollars per ton on

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<sup>32</sup> “Tribe Tables Coal Lease,” newspaper clipping, 25 November 1975, Redhouse Papers, box 1, folder 13 (1 of 3). “Gasification Unresolved,” *Albuquerque Journal*, 5 June 1975, A2, copy in Redhouse Papers, box 1, folder 13 (2 of 3).

federal lands and one to two dollars per ton on private lands. MacDonald's rationale that energy development could bring economic progress and that science and technology could mitigate environmental damage is not surprising given that he chaired CERT throughout the late 1970s. However, his support for energy development exposed a rift between this official tribal position and local community members and NIYC who opposed the development.<sup>33</sup>

Like MacDonald, the Navajo Tribal Council first opposed and later supported coal gasification. Like MacDonald's support for gasification, the council's support for gasification exposed factional lines between the tribal government and oppositional stances taken by local communities and the NIYC. The Navajo Tribal Council remained reluctant to support coal gasification even when MacDonald was testifying to Congress in support of a synthetic-fuels- loan-guarantee bill that would have helped facilitate gasification development on the reservation. In 1976, the Tribal Council sided with local chapters that opposed gasification over Chairman Peter MacDonald and wrote a letter to Congressman Olin Teague, the Chairman of the Committee on Science and Technology. A total of 41 out of the 72 Council members signed this letter, which stated that they "as elected officials of the Navajo Nation" held "serious reservations concerning any federal loan guarantee that will hasten exploitation of our resources for

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<sup>33</sup> "Tribe Tables Coal Lease," newspaper clipping, 25 November 1975, Redhouse Papers, box 1, folder 13 (1 of 3). "Gasification Unresolved," *Albuquerque Journal*, 5 June 1975, A1 and A2, copy in Redhouse Papers, box 1, folder 13 (2 of 3). "Navajo Tribal Chairman Explains Mining Position," newspaper clipping, January 1977, Redhouse Papers, box 1, folder 13 (2 of 3). Peter MacDonald, "Statement of Peter MacDonald, Chairman, Navajo Tribal Council, in US Congress, Senate, *Committee on Public Works, Impact of Energy Development on Northwestern New Mexico: Hearings*, 109. For background on MacDonald's support for energy development on the Navajo Reservation, see Chamberlain, *Under Sacred Ground*, chapt. 7, especially 103-106.



quick cash and nominal job opportunities.” However, just four months later, the Tribal Council, including the councilman from Burnham, approved the re-negotiated El Paso coal lease, which was a major step toward turning coal gasification plans into reality.<sup>34</sup>

This lease approval sparked community protests and strong opposition against the tribal government in Burnham and Shiprock. The same day the lease was approved, some thirty people from Shiprock and Burnham who traveled to the government headquarters in Window Rock protested the decision. Four days later, some seventy-five protesters held a seven-hour protest at the Tribal Council chambers and the next day eighteen Navajos were arrested after an all-day protest of roughly forty people. The Burnham Council member Benjamin Hogue resigned shortly after casting his vote of approval for El Paso’s lease due to intense criticism—including death threats—from his constituents in the Burnham area.<sup>35</sup>

NIYC joined forces with local communities to build a case that the Navajo Tribal government did not represent the interests of local people. To illustrate the disparity between the view of the Tribal Council and local individuals, NIYC and Navajo community members gathered some 320 signatures of Navajos living in the areas slated for coal gasification and strip mining who did not want coal gasification development.

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<sup>34</sup> National Indian Youth Council, Inc., “Summary Report,” 2 July 1976, Redhouse Papers, box 1, folder 13 (1 of 3). Letter from Navajo Tribal Council to Honorable Olin E. Teague, 20 April 1976, Redhouse Papers, box 1, folder 13 (1 of 3). Jonas Mustach to Congressman Olin E. Teague,” 28 May 1976, Redhouse Papers, box 1, folder 13 (1 of 3).

<sup>35</sup> National Indian Youth Council, Inc., “Summary Report,” 31 August 1976, Redhouse Papers, box 1, folder 13 (2 of 3). “Protest Delays Navajo Council,” newspaper clipping, 25 August 1976, Redhouse Papers, box 1, folder 13 (2 of 3). National Indian Youth Council, Inc., 17 February 1977, “The struggle against the proposed coal gasification and stripmining development in the Four Corners area of the Navajo reservation has now reached a critical stage . . . .,” Redhouse Papers, box 1, folder 13 (2 of 3).

Also, NIYC staff and local residents John Redhouse, Bob Tsosie, and Esther Keeswood wrote a letter to Senator Pete Domenici arguing that various flaws existed in the tribal government. They argued that the people on the Navajo Reservation were not fairly represented by council members due to chapter boundaries that did not take population into consideration. They also stated that the Burnham Council seat vacated after Benjamin Hogue's resignation was never replaced, leaving the community that would bear the greatest cost of gasification without representation. But even if the seat were filled, it would not ensure representation of the community's wishes, as Hogue had voted against the community resolution opposing gasification. The activists ultimately argued that the entire government body was corrupted and that "the real reason for the creation of the Navajo Tribal Council was to handpick a 'representative' body of Navajo leaders to negotiate oil and gas leases with outside companies." The authors of the letter then requested that Domenici exempt gasification projects from receiving federal-loan guarantees based on two criteria: the first, mentioned earlier, was to exempt projects in water scarce areas; the second was to exempt projects where local communities opposed synthetic-fuel projects.<sup>36</sup>

If local Navajo communities and activists who opposed coal gasification on the reservation felt marginalized by their own government, they felt completely abandoned—if not betrayed—by their federal representatives. In January 1977,

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<sup>36</sup> National Indian Youth Council, Inc., "The struggle against the proposed coal gasification and stripmining development in the Four Corners area of the Navajo reservation has now reached a critical stage . . . ." 17 February 1977, Redhouse Papers, box 1, folder 13 (2 of 3). John Redhouse, Bob Tsosie, and Esther Keeswood to Senator Pete Domenici, 11 August 1977, Redhouse Papers, box 1, folder 13 (3 of 3). "Domenici, Indian Activist Trade Views on Energy," *The Gallup New Mexico Independent*, 22 August 1977, 2, copy in Redhouse Papers, box 1, folder 13 (3 of 3).

Senators Joseph Montoya and Peter Domenici co-sponsored a congressional bill (Senate Bill 1340) that would have provided multibillion-dollar loan guarantees for synthetic-fuel development, for which El Paso's and WESCO's coal-gasification development on the Navajo Reservation would have qualified. An aide to Domenici, well aware that the Burnham and Shiprock communities adamantly opposed coal-gasification development, stated: "We know that the people of Burnham area are caught in the middle. We want to talk to them, but we want the Navajo leadership involved. We can talk to the people, but we don't like to do that."<sup>37</sup> Whether or not the last part of this quotation was only an unfortunate slip-of-the-tongue by the Domenici aide or is taken out of context, it fairly represented Domenici's and Montoya's preference for meeting with both on-reservation and off-reservation community leaders and specialists rather than directly with community members who lived in the actual places slated for coal gasification projects that Senators Domenici's and Montoya's legislation would have facilitated.

Senator Joseph Montoya, like Domenici, avoided meeting with Navajo people who, he knew, would have denounced his support for coal gasification. Montoya, a member of the Committee on Public Works, held a hearing largely focusing on coal gasification in the off-reservation town of Farmington on March 12, 1976. But the previous day, Montoya failed to show up at a scheduled hearing in Shiprock, claiming that weather conditions would not permit air travel. In response, the Shiprock

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<sup>37</sup> Jim Largo, "Domenici Promises Tribe Talk," *Albuquerque Journal*, 10 September 1977, copy in Redhouse Papers, box 1, folder 10 (2 of 3).

Chapterhouse voted 221 to 0 to boycott Montoya's hearing in Farmington.<sup>38</sup> Given the vacuum of oppositional voices from Navajo residents living in areas slated for coal gasification and Indian activists, the congressional hearing record is filled primarily with testimonials from local governmental leaders, federal bureaucrats, and El Paso and WESCO corporate executives. Each witness generally supported increased energy development and coal gasification, providing that adequate planning and governmental aid were available for the predicted influx of workers who would stress the local institutions and infrastructure, such as schools, roads, and housing. Although in his opening statements for the Farmington hearing Montoya expresses regret that he could not make the Shiprock meeting, he was undoubtedly relieved to be in the company of people more favorable to his own position supporting coal gasification, including top corporate representatives from El Paso and WESCO whose primary purpose at the hearings was to request the federal-loan guarantees that Montoya not only supported but eventually legislated.<sup>39</sup>

Duayne Yazzie, the secretary for the Shiprock Chapterhouse, articulated a statement of opposition that stands in marked contrast to nearly all of the other statements recording during the hearing. Yazzie's primary complaint was that corporate and governmental outsiders were planning gasification development of Navajo land without first consulting the people who lived in the areas where energy-resource

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<sup>38</sup> National Indian Youth Council, Inc., Summary Report, 16 March 1976, Redhouse Papers, box 1, folder 13 (1 of 3).

<sup>39</sup> Joseph Montoya, "Opening Statement of Hon. Joseph Montoya, US Senator from the State of New Mexico," in US Congress, Senate, *Committee on Public Works, Impact of Energy Development on Northwestern New Mexico: Hearings*, 1-2.

extraction and energy generation were to take place. Yazzie directly addressed Sam Smith and Paul Rudzik, executives for El Paso and WESCO, who attended and spoke at the congressional hearing. Yazzie said: “Now who are these guys coming from Texas [Sam Smith] and Los Angeles [Paul Rudzik] to make judgment as to what is good for the people down here? This I consider the mentality of the U.S. Government. They have been trying to tell us, ‘This is good for you; this is what is good for you,’ for 400, 500 years—whose counting.”<sup>40</sup> Yazzie directed this same criticism at Senator Domenici, the New Mexico senator with whom Montoya co-authored a senate bill. This bill offered federal-loan guarantees for synthetic-fuel operations, such as those that El Paso and WESCO proposed for the Navajo Reservation. Yazzie questioned, “Who the hell is he [Domenici] . . . embarking all over the country advocating gasification [?]”<sup>41</sup>

Yazzie also criticized Navajo chairman Peter MacDonald while more obliquely criticizing Senator Montoya face-to-face for not placing the local communities at the center of the congressional hearings pertaining to El Paso’s and WESCO’s proposed coal gasification projects. Yazzie claimed that MacDonald did “not represent the majority of the Navajo people” and that in the instances where MacDonald appeared to side not with energy corporations but with opponents of energy development, “his words and actions [did] not jive that much.”<sup>42</sup> Directly addressing Senator Montoya, Yazzie requested that he visit Shiprock and Burnham to speak with the people there. When Montoya hinted that he would attempt to visit Shiprock, Yazzie asked Montoya if his

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<sup>40</sup> Duayne Yazzie, “Statement of Duayne Yazzie, Chapter Secretary, Shiprock Chapter, Navajo Nation,” in *Ibid.*, 168.

<sup>41</sup> *Ibid.*, 170.

<sup>42</sup> *Ibid.*, 169.

refusal to visit Burnham was based on this place being “too uncivilized” for the senator. This forced Montoya to say that he was willing to visit Burnham, but he quickly qualified this by saying that he would first “consult with the other leaders of the Navajo people there and ask them where do they want me, in what place, and I will go to that place.” Montoya explained, “I won’t leave it up to you [Yazzie]. I will leave it up to the cross-section of the leadership of the Navajo people.” Yazzie attempted to force Senator Montoya to meet with the local communities—in Yazzie’s words, the “people out here, the people who are living off of potatoes and beans day after day”—who would be most affected by coal gasification. But Montoya circumvented such a meeting since it surely would have been uncomfortable for him, given the fact that his legislation supported the coal gasification projects that these communities opposed. To save face while under fire from Yazzie’s relentless assault, Montoya only offered to meet with Navajo governmental leaders, such as MacDonald, rather than the actual people who lived in areas slated for coal gasification.<sup>43</sup>

The root of Yazzie’s frustration lay in the fact that corporations and governmental officials failed to listen to the wishes of the local communities of Shiprock and Burnham where coal gasification was planned. Throughout his congressional hearing statement, Yazzie stressed this message—that corporations and governmental officials listen to local communities. Yazzie said: “[W]hat we want is to have our opinions and our input considered, because it is with our land and our life that you are dealing, first of all; because you don’t know what we are going through, what we going

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<sup>43</sup> Ibid., 169-170.

to go through. We are the principal ones who are going to have to suffer. . . . I am an elected official and elected representative of the people. What I have to say is the opinion of the people, because we would only like our input . . . . We are the ones that should matter first, and that is all we are asking. We want to be considered, and we demand it.”<sup>44</sup>

Ultimately, corporate plans for coal gasification fell apart. The reasons for this failure are varied. Both MacDonald and the Tribal Council rejected WESCO’s coal gasification project in 1978. MacDonald stated that issues of hiring preference, Navajo taxation rights, and environmental impacts led him to oppose the development. WESCO’s general manager, Bob Rudzik, expressed disappointment about the decision and said that he had thought MacDonald supported the proposal for coal gasification. WESCO first considered building gasification plants on public lands just off the reservation, and the company ultimately attempted to transfer its gasification project to the Crow Reservation.<sup>45</sup>

However, MacDonald’s and the council’s renegotiated mining lease with El Paso kept gasification development on the table. This also kept the contestation over gasification alive. In fact, the leases renegotiated with El Paso ignited the protests at Window Rock. And, in 1980, when the lawsuit brought by NIYC and thirteen Burnham residents against the secretary of interior was dismissed, Indian activists occupied El Paso’s mine. While this takeover of the El Paso facility was dramatic as a symbol of

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<sup>44</sup> Ibid, 169.

<sup>45</sup> “Tribal Council Defeats WESCO Plan 48-8,” newspaper clipping, 2 February 1978, Redhouse Papers, box 1, folder 13 (3 of 3). Ambler, *Breaking the Iron Bonds: Indian Control of Energy Development*, 84.

resistance, it was largely ineffectual and led only to the arrests of those who invaded the mine. It seems that markets and federal energy policy, more than activists, kept El Paso's gasification plans from materializing as federal support for synthetic fuels ended and coal markets weakened throughout the 1980s. Despite the failure of coal gasification to materialize, it contributed in a very real way to social movements that came to oppose energy development during the 1970s.<sup>46</sup>

In chapter 1, I have outlined how coal-energy development transformed the land and how the corporations built discourses around progress and technology to downplay the environmental damage caused by their industries. In this chapter we have seen how opponents of energy development, particularly coal gasification, built their own narratives around energy development which centered on social disruption and environmental destruction. Industrialists asserted that advances in technology could curb the environmental impacts to large-scale energy development and that economic prosperity would spread to all sectors of society. Opponents of energy development pointed to the environmental changes in the land, air, and water as threats to existing or other planned land uses, such as sheepherding and farming, as well as the health of local people. Opponents also came to understand modern energy development through a lens of colonialism and neocolonialism, as corporations reaped large profits from Indian resources while local Navajos received only nominal employment opportunities in the new economy. Environmental organizations varied in the degree and method of

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<sup>46</sup> "Tribal Council Defeats WESCO Plan 48-8," newspaper clipping, 2 February 1978, Redhouse Papers, box 1, folder 13 (3 of 3). Ambler, *Breaking the Iron Bonds*, 75.



their opposition to coal gasification. But the most active environmental groups who opposed gasification—the Southwest Research and Information Center and the Sierra Club—resisted energy development based on rationales similar to Navajo activists. Had these groups united in their opposition over gasification, they might have been more successful in stopping plans for gasification. But the voices of dissent from marginalized communities, Native American activist organizations, and environmental groups seemed to have reverberated only lightly against the walls of corporate and governmental power driving energy policy and markets. Plans for energy development persisted throughout the 1970s until federal energy policy and energy markets—rather than opposition from activists and local communities—barred coal gasification development.

It is clear, though, that large-scale energy development not only altered the physical environment but also the social structure of local communities. Even though coal gasification failed to materialize and therefore did not transform the landscape, the mere specter of such a massive and contested energy development plan factionalized the Navajo tribe and communities. The apparition of large-scale energy development alone changed the social dynamics of the region primarily by carving lines between supporters and opponents of energy development. In the case of coal-gasification projects, this social fissure is most apparent between the tribal council and local communities. While the former sought economic benefit from energy development, the latter would have borne the most costs from this development and therefore was more reluctant to back coal-gasification proposals.

PART II:  
CONTESTING THE PUBLIC DOMAIN

## CHAPTER 3

### POWER AND CONFLICT OVER THE PUBLIC DOMAIN: CORPORATIONS AND ENVIRONMENTALISTS VIE FOR THE SAN JUAN BASIN

While coal gasification plans on the Navajo reservation fizzled during the late 1970s, interest in developing coal resources on nearby public land in the San Juan Basin intensified. The federal government and energy corporations especially targeted the same coal seam where Utah International and El-Paso Consol held their leases and where gasification projects were planned; only instead of focusing on this coal seam on the reservation they planned on developing the coal seam where it left the reservation boundary. Near the reservation town of Burnham, this north-south trending coal seam abruptly veers toward the east-southeast, leaves the reservation, and cuts across the Chaco-Bisti region. During the early 1980s, the Bureau of Land Management (BLM), under the direction of Secretary of the Interior James Watt, pushed the incompatible agenda of “maximizing leasing opportunities for federal coal” while also “establish[ing] strict protection measures for resources other than coal, particularly archaeological sites, paleontological deposits and recreational areas” within the San Juan Basin.<sup>1</sup> This agenda for increasing coal leases turned the larger San Juan Basin—and particularly the Chaco-Bisti region—into a highly contested terrain in which energy corporations, environmental groups, and Navajos vied for the control.

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<sup>1</sup> BLM, “Coal in the Chaco/San Juan: Land Use Recommendations for Public Review,” Farmington Resource Area, Bureau of Land Management, [1981], page 8, copy in G. Corry McDonald Papers, Center for Southwest Research, University of New Mexico [hereafter McDonald Papers], box 2, folder 15.

Looking at contestation over this place is important because it reveals the governmental-corporate power structure that came to control the San Juan Basin and the Chaco-Bisti area. During the early 1980s, the Department of the Interior (DOI) took a particularly favorable position toward energy development on the public domain. Local politicians, such as Jack Morgan, a state legislator who represented the greater Farmington area, also attempted to facilitate corporate desires for coal-energy development in the San Juan Basin. Public Service Company of New Mexico (PNM), Sunbelt Mining Company (a subsidiary of PNM), and Arch Minerals Corporation (formed by Peabody Mining Company corporate executives) held the most interest in developing the Chaco-Bisti area. Other coal-mining and utility companies, such as Santa Fe Pacific Railroad Company, Pittsburgh and Midway Coal Mining Company, Consolidation Coal Company, Arizona Public Service Company, and Tucson Gas and Electric held interest in the coal resources located throughout the greater San Juan Basin. Governmental support for energy development, however, was not uniform—Governor Tony Anaya, Senator Jeff Bingaman, Senator James Weaver, Congressman Bill Richardson, and the Governmental Accounting Office—all expressed reservations over the Department of Interior’s coal leasing program. But, as this study shows, it is clear that the Department of Interior together with energy corporations formed a powerful government-corporate bloc that largely dictated the terms of coal development in the San Juan Basin and the Chaco-Bisti area.

Environmental groups, however, formed their own highly organized bloc to challenge governmental-corporate plans for coal development in the San Juan Basin.

Environmental groups created a coalition of local environmental groups, national environmental groups, and local Navajo organizations to oppose coal development particularly in the Chaco-Bisti area of the San Juan Basin. Environmental groups organized to foster opposition against coal development at a congressional hearing held in Santa Fe in 1983; this hearing addressed federal coal leasing policies and designation of the Bisti wilderness. In waging an information war against coal development in the San Juan Basin, environmental groups created their own news letter called the *Chaco-Bisti News*, which circulated throughout New Mexico. And they submitted voluminous comments and criticisms during the public-participation events, such as the congressional hearing and by barraging the BLM with comment letters during their EIS analysis. These environmental groups strongly attacked the government-corporate powers that attempted to facilitate coal-energy development of the Chaco-Bisti Area, the San Juan Basin, and the larger public domain throughout the country.<sup>2</sup>

Plans for coal-energy development in the Chaco-Bisti region came on the heels of major restructuring of land-management policies for the public domain that directly affected coal development. Under the Carter administration, Congress passed two coal-leasing acts: the Coal Leasing Amendments Act of 1976 and the Surface Mining Control

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<sup>2</sup> "Action Alert!" 15 February 1983, McDonald Papers, box 2, folder 15; and "We Have Washington's Attention!!!" 2 May 1983, McDonald Papers, box 2, folder 15. These documents list the coalition of organizations that united to oppose coal development in the San Juan Basin: Sierra Club, Rio Grande Chapter; New Mexico Wildlife Federation; New Mexico Conservation Voters Alliance; New Mexico Wilderness Study Committee; New Mexico Clean Air and Water; New Mexico Audubon Council; Taos Environmental Association; Chaco Lejin Energy and Resources Committee; Committee on Coal; New Mexico Wilderness Study Committee; Crownpoint Citizens Alliance; Southwest Research and Information Center; and National Indian Youth Council. For organizational efforts to foster public turn-out for the congressional hearing, see "Task Force for San Juan Coal Congressional Hearing," n.d. [1983], McDonald Papers, box 2, folder 15.

and Reclamation Act of 1977. The Coal Leasing Amendments Act did two things. First, it ended a moratorium imposed on the leasing of federally owned coal that began in 1971. Second, it mandated that coal leasing be based on fair-market values and that leaseholders had to develop their coal leases within a 10-year period so that they could not hold onto large tracts of public lands for land-speculation purposes. This Act revised stipulations for federally owned coal that previously fell under the Mineral Leasing Act of 1920, which treated energy resources (oil, natural gas, and coal) differently from hard-rock minerals (gold, silver, copper). The Mineral Leasing Act mandated that the federal government lease energy minerals on the public domain, whereas hard-rock minerals could still be patented under the General Mining Law of 1872. The act provided two means for a company to acquire a lease: through competitive bidding and through a Preference Rights Leasing Agreement (PRLA). The PRLA system only applied to lands with unproven energy reserves. In this way, PRLAs basically functioned to stimulate corporate prospecting for new energy reserves on public lands, but this leasing system also enabled corporations to dominate large leases at relatively little cost. In part, the federal government implemented the 1971 coal- leasing moratorium over fears that corporations were acquiring federal coal for speculative purposes as more and more leasing was occurring without significant increases in coal production. Undoubtedly, the federal government was also interested in leases converting to actual mining operations because of its interest in the royalty stream—fixed at 12.5%—that the government was entitled to receive from coal sales. In the Chaco-Bisti areas, energy corporations had applied for large tracts of PRLA leases before this system of leasing

was abolished by the Coal Leasing Amendment Act. The new leasing act implemented a new leasing system based on competitive bidding.<sup>3</sup>

Whereas the Coal Leasing Amendment Act restructured the leasing process of federally owned coal, the Surface Mining Control and Reclamation Act of 1977 placed environmental regulations on how and where this coal could be strip mined. The Surface Mining Control and Reclamation Act, paradoxically, passed as the Carter Administration—and previous administrations before his—called for intensified domestic coal-energy production, including synthetic energy derived from coal, in an effort to alleviate national energy shortages that became especially pronounced with the 1973 Arab Oil Embargo.<sup>4</sup> Most importantly, the act outlined twenty conditions, called “unsuitability criteria,” under which coal strip mining could not occur. These exclusions, among others, included National Parks, National Wildlife Refuges, and Wilderness Areas, and Wilderness Study Areas; agricultural or residential areas; locations near public roads, public buildings, and cemeteries; historical and archaeological sites; and habitat areas for sensitive bird species, such as Bald Eagles and Ferruginous Hawks. An important exception to the Surface Mining Control and Reclamation Act was that many of the unsuitability criteria did not apply to existing mining operations or mining operations where a company had “made a substantial legal

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<sup>3</sup> Gary C. Bryner, *US Land and Natural Resources Policy: A Public Issues Handbook* (Westport, Conn.: Greenwood Press, 1998), 179. Also see Marion Clawson, *The Federal Lands Revisited*, 95. For a good discuss of the Mineral Leasing Act and how California energy corporations helped shape this legislation, see Paul Sabin, *Crude Politics: The California Oil Market, 1900-1940*, Chapter 2.

<sup>4</sup> For a brief discussion outlining the context from which the Coal Strip Mining Act emerged, see Melosi, *Coping with Abundance*, 301-302; also see Clawson, *The Federal Lands Revisited*, 95.

and financial commitment” to mining an area before the passing of the new law.<sup>5</sup> The energy corporations with interest in the Chaco-Bisti region, as I will discuss later, fell in the awkward position of having only PRLAs, not actual leases, making their situation somewhat ambiguous as to whether their PRLAs were subject to unsuitability criteria.

In a wider political context, the Sagebrush Rebellion emerged on the political scene and gained brief traction during the late 1970s and early 1980s. This movement is primarily identified with conservative Republican politicians (the “New Right”) and interest groups (primarily corporate) who wanted access to the public domain and its resources. Sagebrush Rebels called for the transfer of public land to states and to private ownership. Viewing the federal land-management policies on the public domain in the American West as a stifling force on economic growth in the region, Sagebrush Rebels advocated for less environmental regulations and more energy development, mining, logging, and grazing on the public domain.<sup>6</sup>

With President Ronald Reagan, the Sagebrush Rebellion died—perhaps because it had gotten what it wanted in the president (who supported the “rebels”) and his administration. The actual title of the public domain did not transfer from the federal government to state or private hands under Reagan. But he extended his hand far toward industry and the development of the public domain, while turning a cold shoulder on environmental groups. By opening the public domain to corporate development, Reagan argued that the country’s economic and energy woes—manifest

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<sup>5</sup> For a listing of “unsuitability criteria,” see U.S. Department of the Interior, Bureau of Land Management (hereafter USDI BLM), *Draft Environmental Assessment for Coal Preference Right Leasing* (Albuquerque, New Mexico: Albuquerque District Office, [1981?]), Appendix 3.

<sup>6</sup> For a good discussion of the Sagebrush Rebellion see Short, *Ronald Reagan and the Public Lands*, chapt. 2.



in a recession and the 1979 energy crises—would be solved. Reagan’s commitment to economic development of the public domain moved beyond rhetoric when he appointed James Watt as the secretary of the Department of the Interior. Watt held an unwavering commitment to economic development over environmental protection. A couple years prior to becoming secretary of the interior, Watt railed against environmentalists, calling them “extremists who don’t concern themselves with a balanced perspective or a concern about improving the quality of life for mankind. . . . What is the real motive of these extreme environmentalists? Is it to simply protect the environment? Is it to delay any energy development? Is it to weaken America?”<sup>7</sup>

In 1981, the BLM drafted a Resource Management Plan for the San Juan Basin, including the Chaco-Bisti area, which reflected Reagan’s and Watt’s plans for aggressive resource development on public domain lands under their charge. The BLM stated, “Perhaps the basic recommendation growing out of the land use planning is to carry as much federal coal forward for leasing consideration as possible.”<sup>8</sup> The San Juan River Regional Coal Team formed the directives for this resource development of the Chaco-Bisti. A relatively simple hierarchical chain comprised this team composed of only BLM and state officials: the BLM state directors for Colorado and New Mexico; a BLM-appointed chairman, Kannon Richards, who was the BLM state director of Montana; and the state governors from Colorado and New Mexico. Secretary Watts held “final

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<sup>7</sup> Many of the ideas in this paragraph come from Short, *Ronald Reagan and the Public Lands*. Short discusses the Watt quotation on p. 25. For a more overview discussion of the Reagan administration and the environment, see Samuel Hays, *Beauty, Health, and Permanence: Environmental Politics in the United States, 1955-1985* (New York: Cambridge University Press, 1987), chapt. 15.

<sup>8</sup> BLM, “Coal in the Chaco/San Juan: Land Use Recommendations for Public Review,” Farmington Resource Area, Bureau of Land Management,” [1981], 8, copy in McDonald Papers, box 2, folder 15.

authority over lease sales.”<sup>9</sup> Given the relatively closed-circuit nature of the BLM’s decision-tree, it is difficult to believe that the resource development of the Chaco-Bisti region and the greater San Juan Basin—and other public lands throughout the West—did not reflect Watt’s agenda for intensive resource development of public domain lands under his charge.

Planned coal development in the Chaco-Bisti area of the San Juan Basin did not initiate under Secretary Watt and the Reagan administration, but it certainly intensified. The major components of coal-mining and energy-development in the Chaco-Bisti region included the leasing of large tracts of public land to mining and energy corporations; the building of a railroad to haul the coal; and the building of a new power plant and possibly a new town to service the power plant. Government-corporate plans for coal leasing in the Chaco-Bisti region covered an area stretching some sixty miles along the northern rim of Chaco Wash from the Bisti Trading Post to the Star Lake Trading Post and just less than five miles north of Chaco Canyon National Historical Park (see Map 3-1). This area encompassed some 75,510 acres of federal, Indian, state, and private lands—all of it underlain by federally-owned coal. Of this land, the federal government (BLM) administered 50,188 acres, the Navajo tribe owned 15,188 acres, Indian Withdrawal Land comprised 4,487 acres, the State of New Mexico owned 5,327

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<sup>9</sup> BLM, “Coal in the Chaco San Juan: An Information Sheet on Work-In-Progress for the Chaco/San Juan Planning Update for Coal,” 26 August 1981, copy in McDonald Papers, box 2, folder 15. This document outlines the decision-tree for coal leasing in the San Juan Basin. The document reads, “The San Juan River Regional Coal Team is comprised of representatives of the governors of New Mexico and Colorado, the BLM State Directors for those two states and a BLM-appointed chairman, Kannan Richards, BLM associate state director in Montana. Much of the remaining decision-making for federal coal leasing will be made by the RCT, although the Secretary of the Interior has the final authority over lease sales. The RCT delineates leasing tracts and recommends which tracts should be selected for lease.”

acres, and private individuals held title to 320 acres. The BLM and energy corporations slated a total of 22,000 acres of this land for surface strip mining and another 26,650 acres for subsurface mining under PRLAs.<sup>10</sup> Although the BLM assumed that some coal would be mineable only through subsurface extraction and some through surface mining, the bureau reported that “coal companies will be mostly interested in strip mining because it is far more economical than underground mining.”<sup>11</sup>

Federal land managers and corporations, through the PRLA system, attempted to carve the Chaco-Bisti region into a corporate landscape. The BLM issued prospecting permits to mining and utility companies between 1967 and 1970. These companies then applied for a total of twenty-six Preference Right Lease Applications (PRLAs) from 1971 to 1974—during the moratorium on leasing federal coal, which began in 1971 (see Map 3-1). The primary utility and mining companies that held PRLAs in the Chaco-Bisti region included: Thermal Energy Company; Peabody Coal Company; the joint Thermal Energy Company-Peabody Coal Company (Thermal-Peabody Company), later named Thercoal Energy Company; Arch Mineral Corporation/Ark Land Company, a company started by some of the original Peabody Coal Company executives; Cherokee and Pittsburg Coal and Mining Company, a subsidiary of Santa Fe Industries; Texas Utilities Service, Inc, which formed the Chaco Energy Company as a mining subsidiary company; United Electric Coal Company, which became Freeman United Coal Mining Company after its merger with this company; Kin-Ark Corporation; Eastern Associated Properties

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<sup>10</sup> USDI BLM, *Draft Environmental Assessment for Coal Preference Right Leasing*, 1-1 and 1-2.

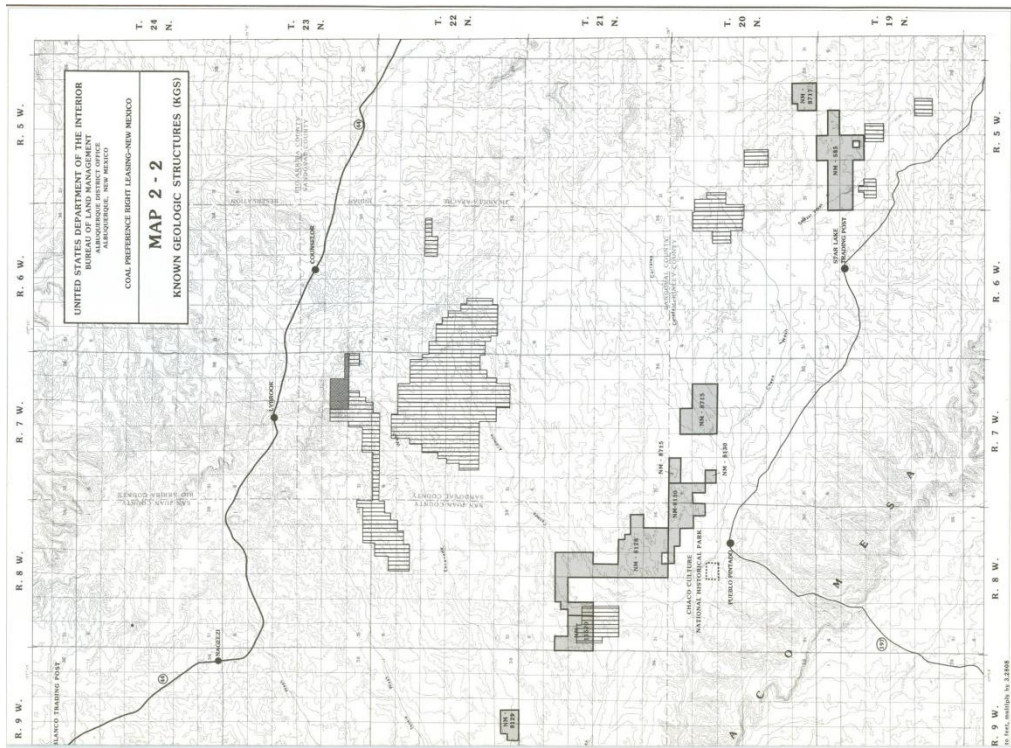
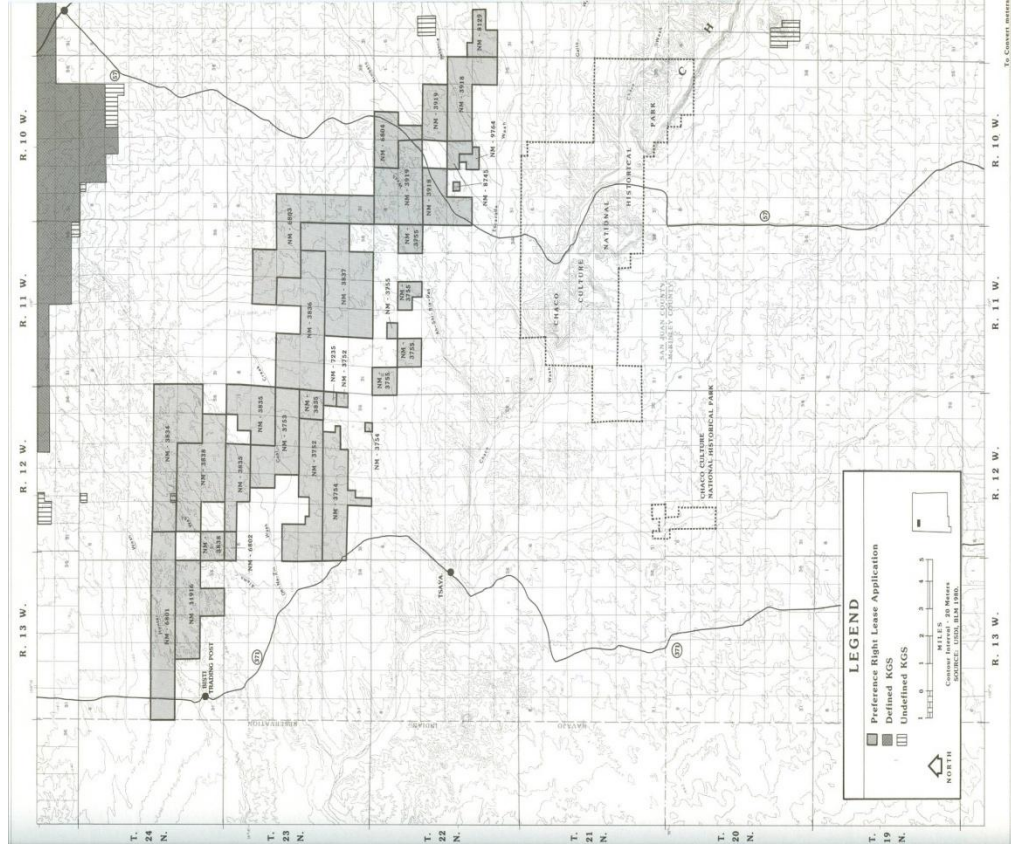
<sup>11</sup> BLM, “Coal in the Chaco/San Juan: Land Use Recommendations for Public Review,” Farmington Resource Area, Bureau of Land Management,” [1981], p. 6, copy in McDonald Papers, box 2, folder 15.

Corporation and Fannin Square Corporation; and Western Coal Company, a subsidiary company of Public Service Company of New Mexico (PNM), which later reorganized into the Sunbelt Mining Company, also a subsidiary of PNM.<sup>12</sup> Mining companies attempted to consolidate and expand their PRLA leases with additional tracts of land that were to be leased competitively under the Federal Coal Leasing Amendments Act of 1976. Thermal-Peabody Company, for example, held a PRLA on 4,790 acres of land and wanted an additional 7,445 acres of adjacent land under consideration for competitive leasing.<sup>13</sup> Although the Federal Coal Leasing Amendments Act of 1976 officially killed the PRLA leasing program, it stipulated that the Department of the Interior (under which the BLM falls) determine the validity of all existing

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<sup>12</sup> USDI BLM, *Draft Environmental Assessment for Coal Preference Right Leasing*, 1-11 (Table 1-2); Nickelson, *One Hundred Years of Coal Mining in the San Juan Basin*, 90-105.

<sup>13</sup> USDI BLM, *Draft Environmental Assessment for Coal Preference Right Leasing*, 1-11 (Table 1-2).



Map 3-1: Preference Right Lease Agreement (PRLA) Coal Lease Areas in the Chaco-Bisti (from USDI BLM, *Preference Draft Environmental Assessment for Coal Preference Right Leasing*, 1981).

PRLA leases. And Secretary Watt set a December 1, 1984 deadline to make this determination.<sup>14</sup>

As early as 1976, the same year that the federal coal-lease moratorium was lifted, the Star Lake Railroad Company proposed to build a railroad line to the Chaco-Bisti area. Without a railroad line or some other form of industrial transportation, such as a water-slurry pipeline, companies could not bring coal to market. The Star Lake Company (a subsidiary of Atchison, Topeka, and Santa Fe Company, itself a subsidiary of Santa Fe Industries) planned to build a spur railroad from its mainline near Prewett, New Mexico, to the Chaco-Bisti area. This spur was to travel north for sixty-one miles until reaching the Pueblo Pintado area, where it would then fork ten miles southeast to the Star Lake area and forty-three miles to the northwest and the Bisti coal area.<sup>15</sup> The railroad, had it been build, would have traversed a total of 2,854 acres of BLM, Indian, state, and private land.<sup>16</sup> The Navajo Tribe owned some 436 acres of this land, with an additional 617 acres being Indian allotment land and 231 acres being Bureau of Indian Affairs-administrated land. The state legislator of the Farmington area, Jack Morgan, supported this railroad so much so that he introduced a bill to provide state funding for its construction.<sup>17</sup>

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<sup>14</sup> USDI BLM, *Draft Environmental Assessment for Coal Preference Right Leasing*, 1-16.

<sup>15</sup> USDI BLM, *Final Environmental Statement, Star Lake-Bisti Regional Coal*, vol. 2, *Site-Specific Analysis, Star Lake Railroad and Fruitland Coal Load Transmission Line* (Washington, D.C.: GPO, 1979), 1-1.

<sup>16</sup> USDI BLM, *Final Environmental Statement, Star Lake-Bisti Regional Coal*, vol. 2, Table 1-2.

<sup>17</sup> For Morgan's support of the railroad, see "Testimony of State Senator Jack W. Morgan, before the Subcommittee on Mining, Forest Management, and Bonneville Power Administration; and the Subcommittee on Public Lands and National Parks, House Committee on Interior and Insular Affairs, Santa Fe, N. Mexico, 21 May 1983," in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, page 322. For Morgan's support of a state-backed railroad, see newspaper editorial, "Derail This One," n.d., McDonald Papers, box 2, folder 15. This editorial was most

PNM's proposal to build the New Mexico Generating Station—an *in situ* coal-fired power plant that would be fed by PNM-leased coal mines in the Chaco-Bisti area—formed another major component of the coal development slated for this area. PNM's large 2,000-megawatt power plant was part of PNM's broader plan to negotiate a large land exchange with the BLM in order to facilitate not only the building of the plant but also the building of a new town of up to 20,000 residents envisioned to work at the plant and the coal mines, or to provide goods and services to these workers. With negotiations for this land exchange in place since 1974, Paragon Resources (a subsidiary of PNM) executives hoped to exchange 17,138 acres of land that it owned near Ute Mountain (about forty miles north of Taos, New Mexico) for between 8,000 and 9,600 acres of BLM land in the Chaco-Bisti area.<sup>18</sup> In the meantime, Paragon Resources acquired a sizable portion of the grazing rights on this land, probably as a move to minimize Navajo grazers from contesting their ownership should they eventually come into ownership of the land. Taking office in 1980, President Reagan and his Secretary Watt—both partial to the “sagebrush rebellion” ideology of opening public lands to corporate development—created a favorable political climate for such governmental-corporate land deals in the early 1980s. Perhaps confident in getting its land-exchange approved under the Reagan Administration, PNM went so far as to fund privately an

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likely written by Corry McDonald in opposition to a state-backed railroad. The editorial states that Senator Jack Morgan backed a \$200 million bond for building a rail line to the Chaco-Bisti area to facilitate coal-energy development of that area; also see Corry McDonald, “To railroad or not?,” 1 March 1983, newspaper clipping, McDonald Papers, box 2, folder 15. This editorial calls for opposition to Senate Bills No. 89 and 90 that would have allocated money for building the railroad.

<sup>18</sup> USDI BLM, *Final Ute Mountain Land Exchange Environmental Assessment* (Albuquerque N.M. District Office, September 1981), 1-1 and 1-2.

environmental firm, Woodward-Clyde Consultants, to write the EIS for its New Mexico Generating Station in lieu of a BLM-prepared report.<sup>19</sup>

Corporations and environmental groups—with the federal government caught somewhere in the middle—contested energy development in the Chaco-Bisti area and the wider San Juan Basin on myriad levels. Here I will focus on only three issues: corporate claims to legitimize the leasing of public lands versus environmental groups' rationales for opposing these claims; corporate claims that a market existed for newly issued coal leases versus environmentalist claims that coal leasing would glut the energy market with unneeded coal; and corporate claims that energy development would bring economic benefits versus environmentalists arguments that coal development would only cause social and economic disruption.

Corporations emphasized their legal right to lease public lands as a means to legitimize their access to the land and resources of the Chaco-Bisti region. Sheridan A. Glen, the assistant vice president of Arch Mineral Corporation, proclaimed that “clear and indisputable legal rights to a lease are met with incredulity by those who believe the preference right leasing process has been a bountiful giveaway to the coal industry.” For corporations, acquiring a mining lease was analogous to acquiring property. Without the lease, corporations held no stake in a given piece of public domain—and the resources, such as coal, that it held. But with the lease, the value of the resources could be factored into a corporation's assets. Emphasizing the corporation's fundamental

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<sup>19</sup> USDI BLM, *Final Ute Mountain Land Exchange Environmental Assessment*, 1-2. Woodward-Clyde Consultants' *Draft Technical Report: Public Service Company of New Mexico Generating Station Environmental Impact Statement* (San Francisco: Woodward-Clyde Consultants, May 1982) was used in lieu of a BLM EIS and was funded by Public Service Company of New Mexico.



interest in acquiring a lease on public lands, Glen compared coal- energy development to a ladder: “the first rung in our case could be characterized as the prospecting permit, the second rung, the issuance of preference right lease application, the third rung as actually obtaining the lease. . . .[and] the top rung of the ladder which represents the successful mining and marketing of the reserve.”<sup>20</sup>

Not having actual leases in hand, corporations with PRLAs attempted to validate their claims to the land while also attempting to minimize their responsibility for adhering to newly enacted environmental regulations. Many of the new environmental regulations established in the Surface Mining and Reclamation Act of 1977 did not apply to mining operations already under production, in cases where a permit had been issued, or in cases where a company had made “substantial legal and financial commitments” prior to the legislation.<sup>21</sup> Not having actual mining operations or mining leases in hand, Glen and other corporate officials with interest in mining the Chaco-Bisti area touted the capital investments that they did make in their PRLAs, such as exploratory work, mining feasibility studies, environmental studies, and marketing plans to show that they had made “a substantial legal and financial commitment” to mining in the Chaco-Bisti area. Glen rationalized that Arch Minerals corporation “did not have the legal authority to commit more money than it did, (i.e. for a coal mine, railroad or preparation facility) until authorized to do so as result of actually acquiring a lease [since lease] applicants are not permitted to make capital intensive investments before the

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<sup>20</sup> “Statement of Sheridan A. Glen, Assistant Vice President of Arch Mineral Corporation,” in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 366, 376.

<sup>21</sup> For a listing of “unsuitability criteria” and exemptions, see USDI BLM, *Draft Environmental Assessment for Coal Preference Right Leasing*, appendix 3.

PRLAs are converted [to actual leases].” Despite the limited capital investments that his company was able to make in PRLA lands that he wanted to lease, Glen argued that if the PRLAs were converted to leases they should not be subject to “unsuitability stipulations [that] are based on section 522 of the Surface Mining Control and Reclamation Act of 1977 [because this] was enacted well after Arch Mineral established its rights under its 1968 prospecting permit and the 1972 preference right lease application.”<sup>22</sup>

Robert A. Jackson, manager of Corporate Affairs for Sunbelt Mining Company (a subsidiary of Public Service Company of New Mexico), also argued that his company had made “a substantial legal and financial commitment” to mining the Chaco-Bisti region while expressing frustration over the fact that the federal government held ultimate authority over coal development in this area. He said that his company committed millions of dollars to purchase mining leases on lands adjacent to PRLAs as well as PRLAs themselves based on the assumption that the PRLAs would convert to leases in 1983. Whether or not these leases would in fact convert to leases depended upon the federal government, a stipulation that Jackson clearly resented. He griped that “project and financial planning in the private sector cannot proceed in an orderly fashion unless industry can rely on the federal government to perform their duties and obligations in a consistent and timely manner. . . . [something] especially true in the [W]est, where

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<sup>22</sup> “Statement of Sheridan A. Glen, Assistant Vice President of Arch Mineral Corporation,” in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 370 and 371.

industry is largely controlled by the action or inaction of the federal government due to the extent of federal land and resources.”<sup>23</sup>

Environmental groups, including the Sierra Club, the National Wildlife Federation, and Southwest Research and Information Center challenged the validity of PRLAs that the BLM issued for coal deposits located in the Chaco-Bisti area. Alison Monroe, a scientist with the Southwest Research and Information Center, pointed out that PRLAs were applications for leases and not actual leases. She argued that “[the] BLM seems to have lost sight of the fact that these applications [PRLAs] are basically applications and not pre-existing rights to tear up the countryside, condemn wilderness study areas, and displace local [Navajo] residents.”<sup>24</sup> Corporations emphasized their claim to the Chaco-Bisti region because they did not hold clear title to the land—in the form of definitive leases—while environmentalists, like Monroe, argued that these companies had no rights to the land because they did not have leases.

Attempting to undercut further the validity of PRLAs, environmental groups argued that PRLAs should never have been issued in the first place. The federal government offered PRLAs, as mentioned, under the Mineral Leasing Act of 1920; these leases were available only for lands where the federal government did not know whether mineral reserves existed; the federal government then issued leases only if a corporation could prove that commercial quantities of a given energy resource existed. Environmental groups challenged the validity of whether the Chaco-Bisti region

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<sup>23</sup> “Statement of Robert A. Jackson, Manger of Corporate Affairs, Sunbelt Mining Company, Inc,” in *Ibid.*, 394 and 395.

<sup>24</sup> “Testimony of Alison P. Monroe, Southwest Research and Information Center,” in *Ibid.*, 415.

qualified as an area of unproven coal reserves. Mark Roberts, with the Sierra Club's Rocky Mountain Office, stated that the PRLAs issued for the Chaco-Bisti region should never have been issued because "the coal resource was already well known, and, therefore, should have been leased competitively."<sup>25</sup> And Karl Gawell, with the National Wildlife Federation, argued that many of the PRLAs were located in areas where extensive governmental studies had been conducted on the coal resources in the area.<sup>26</sup> Given the fact that the coal seam upon which the PRLAs were located was the same one that Utah International and El Paso/Consolidated had been developing throughout the 1960s and 1970s on the reservation suggests that the criticism of whether these lands should ever have been placed under the PRLA leasing system had some validity.

Environmental groups also challenged corporate claim to coal leasing in the Chaco-Bisti region based on another legal stipulation of the PRLA leasing program: whether or not commercial quantities of coal existed on PRLAs. In order for a PRLA to convert to a mining lease, a company had to prove first that commercial quantities of a given resource existed in a given area. Environmental groups tried to undermine PRLA leases in the Chaco-Bisti area by saying that environmental protection of the area would render the PRLAs economically unviable. Laura King, an energy and resource specialist with the Natural Resources Defense Council, argued that the PRLAs "covered extremely

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<sup>25</sup> Sierra Club Legal Defense Fund, Inc. to BLM, 8 April 1983, Denver, Colorado, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letters* (Santa Fe: New Mexico State Office, September 1983), CL-175. For similar comments contesting the validity of PRLA leasing see Friends of the Earth to BLM, 8 April 1983, Washington, D.C., in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letters*, CL-122; and Sierra Club, Rio Grande Chapter to BLM, 16 July 1981, Tijeras, New Mexico, in USDI BLM, *Final Environmental Assessment for Coal Preference Right Leasing, New Mexico*, 78.

<sup>26</sup> Karl Gawell, National Wildlife Federation, Oral Statement, in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 274.

environmentally sensitive areas” including Wilderness Study Areas. She reasoned, therefore, that “the costs of truly mitigating the environmental impacts of coal development may be so high as to make some of the leases uneconomic [sic].”<sup>27</sup> Along the same line, George Pring, an attorney who represented Natural Resources Defense Council, argued that the BLM could not determine whether commercial values of coal existed because it had not completed in-depth environmental impact studies of areas slated for PRLA leases and therefore could not subtract the environmental costs from the economic potential of the coal. Pring cited a 1979 ruling made by U.S. District Judge June L. Green that the cost of mitigation for the environmental impacts of coal mining would determine whether or not a corporation held commercial quantities of coal.<sup>28</sup> Environmental organizations used the legal framework of the PRLA system—which facilitated coal leasing—to attack the validity of PRLA leasing itself, while corporations used PRLAs as their primary means to stake a claim in the public-domain land of the Chaco-Bisti area.

Both the energy market and the actual value of coal also played major factors in BLM and corporate rationales for energy development in the Chaco-Bisti area as well as environmental groups’ protest over this development. The BLM acknowledged that it intended to release as much coal as possible in the San Juan Basin, stating that “more lands were recommended as suitable for federal coal development than is anticipated will actually be required to meet market needs.” The BLM’s over-leasing of coal was

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<sup>27</sup> Laura B. King, Energy and Resource Specialist for Natural Resources Defense Council, Inc., to Congressman James Weaver and Congressman John Seiberling, 18 May 1983, in *Ibid.*, 430-431.

<sup>28</sup> Letter from George W. Pring, Attorney at Law, Representing Natural Resources Defense Council, Inc., to James G. Watt, Secretary of the Interior, and Robert F. Burford, Director of Bureau of Land Management, 2 May 1983, in *Ibid.*, 504.

pragmatically driven by the fact that the BLM believed that much of the land would not be mined: this rationale rested on the fact that subsurface mining costs were much higher than strip mining costs and therefore only land suitable for strip mining would actually be mined. But the BLM's intensive coal-leasing agenda was also ideologically driven and closely reflected Secretary Watt's focus on resource development over environmental protection. Echoing Watt's pro-development agenda, the initial BLM management plan for coal development in the San Juan Basin stated, "In the past, accessibility to federal minerals has sometimes been jeopardized by land transactions or land use decision which encumber mineral leasing." But under Watt's watch, the federal government attempted to lease public resources to private corporations in as unencumbered way as possible.<sup>29</sup>

Corporate officials affiliated with the coal industry strongly supported Watt's agenda to release public coal to private industry, but couched their support for this by claiming that Watt's coal-leasing program did not serve their own interests but rather the demands of the market. Thomas Hoffman, director of Federal Government Affairs for Consolidation Coal Company, said that adequate supplies of fuel "depend[ed] on the Federal Government to make available its reserves."<sup>30</sup> George Byers, manager of Governmental Affairs for Santa Fe Coal Corporation, (a subsidiary of Santa Fe Industries), which held interest in not only leasing but owning large tracts of land in the San Juan Basin through land exchanges with the BLM, argued that demands for energy

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<sup>29</sup> BLM, "Coal in the Chaco/San Juan: Land Use Recommendations for Public Review," Farmington Resource Area, Bureau of Land Management, [1981], page 9, copy in McDonald Papers, box 2, folder 15.

<sup>30</sup> Thomas Hoffman, Director of Federal Government Affairs for Consolidation Coal Company, Oral Statement, in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 250.

required that Secretary Watt's recommendations for leasing public coal was necessary: "The leasing targets [for the San Juan Basin] selected by the Secretary of Interior [Watt] are of critical importance to enable the coal industry to meet" market demands for electricity.<sup>31</sup>

While corporations demanded that federal—that is, public—coal resources be released to private industry, they attempted to weaken federal restrictions placed on how this coal could be developed. Dick Holsten, president of the Pittsburg and Midway Coal Mining Company, wanted the federal government to issue leases without time restriction for development. In Section 3 of the Coal Leasing Act of 1976, the federal government placed a ten-year limit on coal leases unless they began producing coal. The government enacted this regulation to prevent individuals or corporations from holding title to federal resources for speculative purposes of future energy markets rather than current energy markets. Holsten proclaimed that the act had worked, that "speculators are gone, literally gone," and he supported H.R. 1530, which would repeal Section 3 of the Coal Leasing Act.<sup>32</sup> If the federal government unleashed vast tracts of the public domain to corporations, as they called for, then they would need long-term leases. Otherwise, the supply for coal would be too vast for existing energy market. But with long-term leases, companies could hold onto their leases until there was a market for their coal. In terms of taking care of one part of this equation—the release of public coal resources—corporations had a favorable ally in Secretary Watt.

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<sup>31</sup> SF Coal Corporation to BLM, 6 April 1983, Albuquerque, New Mexico, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letters*, CL-137-138.

<sup>32</sup> Thomas Hoffman, Director of Federal Government Affairs for Consolidation Coal Company, Oral Statement, in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 248.

Knowing that the federal government regulated the time frame in when leases could be mined, energy companies attempted to make coal in the San Juan Basin appear necessary for meeting energy-market demands. Robert Jackson, with Sunbelt Mining Company (a subsidiary of Public Service Company of New Mexico) stated that the “annual production potential of the PRLAs [in the Chaco-Bisti region] closely correlates to expected demand projections for the Star Lake Mines . . . [and thus] conversion of the PRLAs to lease at this time appears to be both reasonable and prudent.”<sup>33</sup> For Sunbelt Mining’s parent company, Public Service Company of New Mexico, the stakes were particularly high in claiming a need for energy because they proposed to build a 2,000-megawatt mine-mouth power plant adjacent to their PRLA in the Chaco-Bisti area. PNM projected that this power plant would serve a New Mexico energy market in the early 1990s. By claiming a market need for additional coal, energy companies bolstered their own interest in securing leases over public land and public coal.<sup>34</sup>

To support their claims that a market need existed for New Mexico Coal, proponents of coal energy development cited studies indicating a market need for San Juan Coal. Jack Morgan, the state legislator who represented the Farmington area and who strongly backed coal-energy development, referred to such a report to foster support for developing the Chaco-Bisti area. The Bureau of Business and Economic Research, affiliated with the University of New Mexico, printed a study, with the analysis being done by Data Resources, Inc., and Temple, Barker, and Sloane, Inc. The report

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<sup>33</sup> “Statement of Robert A. Jackson, Manger of Corporate Affairs, Sunbelt Mining Company, Inc,” in *Ibid.*, 398.

<sup>34</sup> Woodward-Clyde Consultants’ *Draft Technical Report: Public Service Company of New Mexico Generating Station Environmental Impact Statement*, 1-1 and 2-12.



stated that existing mines in the San Juan Basin could produce enough coal for projected markets between 1985 and 1990. After 1995, however, the report states that the Star Lake Railroad Mine, located in the Chaco-Bisti area, would be necessary to meet market demands. Further, the report states that the Star Lake Railroad Mines “are required if New Mexico coal producers are to capture some of the export market for coal that will exist in west Texas and California after 1990 . . . . [But] this export market cannot be tapped unless the Star Lake Railroad Mines come on-stream.” The report concluded that the Railroad to the Star Lake and Chaco-Bisti area should be constructed immediately in order to bring those mines into production as quickly as possible.<sup>35</sup>

But, when challenged, some corporate officials acknowledged that market needs for mining the coal in the Chaco-Bisti region might not be as pressing as they indicated. Congressman James Weaver, who co-chaired a congressional hearing on federal coal leasing and the Bisti Badlands wilderness proposal—and who strongly criticized Secretary Watt’s coal leasing program—felt that too much coal leasing would create an energy glut. Specifically, Weaver said that if everyone planned to develop energy to sell to California, then there would be too much energy and several companies would fail. In response to Weaver, Sheridan A. Glen, with Arch Minerals Corporation, acknowledged that “the market has been soft for New Mexico coal” and that a competitive market for coal might be twenty to twenty-five years into the future rather than ten or fifteen years away as corporations, such as Sunbelt Mining Company,

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<sup>35</sup> “Evaluation and Comment on the New Mexico Coal Market Study,” in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 354 and 356. Jack Morgan submitted this reported as supporting evidence to the statement he made before the committee.

claimed. Glen also emphasized that there were potential markets for New Mexico coal in western Texas, while omitting any mention of California. Trying to keep the focus of the congressional hearing on leasing and not markets, Glen made the circular argument that without having federal coal leases, there could be not market for the coal: “[W]ith regard to marketability of coal, gentlemen, we can’t market coal unless we have a lease.”<sup>36</sup>

Another corporate official did not see any problem in the federal government over-leasing publically owned coal. Richard Holsten, with Pittsburgh and Midway Coal Mining Company, said that “by maximizing the amount of coal under lease, the Government will foster head-to-head competition among coal companies which will ultimately be to the benefit of the consumer.”<sup>37</sup> Thomas Hoffman, with Consolidation Coal Company, echoed this rationale, saying, “[The] coal industry’s potential as a major domestic source of energy can only be achieved by making coal available to the consumer at competitive prices . . . . For this to occur in many parts of the country the coal industry must depend on the Federal Government to make available its reserves.”<sup>38</sup> Beyond providing consumer protection, corporations claimed, increased coal development would provide greater energy security to the country, something fresh in Americans’ minds after the energy shortages in the 1970s. Such was the claim of R. E. Gene Samples, president of Arch Mineral Corporation, who said that increased coal leasing would make “energy costs lower because the competition is greater” and that

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<sup>36</sup> Sheridan A Glen, Vice President of Arch Minerals Corporation, Oral Statement, in *Ibid.*, 60 and 52.

<sup>37</sup> Richard Holsten, President of Pittsburg and Midway Coal Mining Company, Oral Statement, in *Ibid.*, 247.

<sup>38</sup> Thomas Hoffman, Director of Federal Governmental Affairs for Consolidation Coal Company, Oral Statement, in *Ibid.*, 250.

increased coal development could solve “our dependence on foreign oil by moving to coal.”<sup>39</sup>

What energy companies failed to acknowledge was their own interests in acquiring large leases of federally—publically—owned coal for their own profit. Congressman James Weaver, who headed a congressional hearing addressing federal coal leasing policy, did question whether or not corporations felt that the federal royalty rate paid for coal extracted from federal lands sat at a ridiculously low 12.5%. However, Weaver did question corporations about whether they felt that the three-cents per acre holding cost for undeveloped leases was, in his terms, “ridiculously low.” In response, Gene Samples, with Arch Mineral Corporation, said that “the most important thing that your [James Weaver’s] committee and the Government and the people of the United States can do is to get energy at its lowest cost into the marketplace, because we all benefit greatly from those low costs. The holding costs, the bonus bids, the royalties and all, must be paid by the consumer. It just isn’t possible to have it happen any other way.”<sup>40</sup> Of course, it could happen another way: energy companies could take less profit, say a 50-50% royalty cut with the public—which owned the coal—rather than the grossly disproportionate 87.5-12.5% cut that corporations took from public-energy resources. But the corporate rhetoric that taxes should be minimized to protect the consumer reflected their own interests in minimizing the costs and maximizing the profits from leasing, extracting, and selling publicly owned coal.

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<sup>39</sup> R. E. Gene Samples, President of Arch Minerals Corporation, Oral Statement, in *Ibid.*, 259 and 260.

<sup>40</sup> *Ibid.*, 253.

Although environmental groups did not challenge the disproportionate royalty rates that the federal government received for publically owned resources versus what corporations took from public resources, they did challenge the market need for energy and the market value for coal that corporations wanted to acquire in the Chaco-Bisti area and the greater San Juan Basin. Environmental groups, as we have seen, challenged the legal validity of PRLAs as a means to stop coal mining in the Chaco-Bisti area. But they also contested energy market needs to challenge the BLM's proposal to issue both competitive leases and to convert PRLAs into leases in the San Juan Basin. Environmental groups' criticism that energy-market needs did not necessitate increased coal leasing was first couched an overarching critique of the BLM and the Department of Interior's coal leasing program.

With the EIS for coal leasing in the San Juan Basin, the BLM narrowed the range of options for resourced development to only four alternatives for coal development. The BLM's choices over coal development in the *San Juan River Regional Coal Environmental Impact Statement* primarily differed not in whether the PRLA leases would be issued but rather in the amount of additional coal that the federal government would offer for competitive leases, which ranged from no competitive leases to competitive leases containing over 1.9 billion tons of coal. Most competitive leasing tracts of land were located on areas that abutted the PRLAs in the Chaco-Bisti area, on a coal seam located forty miles south from the Chaco-Bisti, and on a coal seam near Gallup. The BLM designed these competitive leasing tracts of land to expand existing mines—such as the McKinnley Mine near Gallup—and potential mines, such as the

mines proposed in the Chaco-Bisti area and the Lee Ranch Mine located 40 miles to the south. The BLM ultimately backed a plan to put up .916 million tons of coal for competitive leasing, slightly less than Secretary Watt's targeted-level of 1.2 to 1.5 billion tons of coal leasing for the San Juan Basin area. The BLM's alternatives for dealing with PRLAs fell into three sub-alternatives: issuing the leases, exchanging PRLAs for other BLM land (either entirely or in part), and revising PRLA contracts to contain stricter environmental regulations for mining these areas. The BLM's preferred choice was to issue all twenty-six PRLAs, which contained some 2.2 million tons of coal. The BLMs proposal to issue leases for both the PRLAs in the Chaco-Bisti area and the competitive leases in this and other areas comprised a massive coal-leasing and -development program.<sup>41</sup>

Environmental groups lambasted the DOI's transfer of public-land and public-coal resources to private corporations with the federally directed coal-leasing program. Representing a consortium of environmental groups at a congressional hearing, Ron Grotbeck claimed public ownership to the land and resources of the Chaco Bisti region: "The coal we've been talking about today, of course, is Federal coal. It's owned by the people, the citizens of the United States; not by the Interior Secretary."<sup>42</sup> Other environmentalists, like David Webb with Friends of the Earth, argued that Watt's coal-leasing program on public lands constituted "blatant giveaways to industry conducted by a set of political appointees [Secretary of Interior James Watt]" with pro-

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<sup>41</sup> USDI BLM, *Second Draft San Juan River Regional Coal Environmental Impact Statement* (Albuquerque, New Mexico: Albuquerque District Office, October 1983), xi-xxi; 1-1.

<sup>42</sup> Ron Grotbeck, Committee on Coal, Oral Statement, in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 135.

development ideological viewpoints and cozy relationships with the energy industry. Webb felt that “land use planning and all other considerations [for environmental protection] are condensed to meet Secretary Watt’s management-by-ideology [coal] leasing deadlines.”<sup>43</sup> And environmentalists stated that the San Juan Basin coal lease—amounting to 2.3 billion tons of coal if PRLAs and competitive leases were added together—constituted the “largest coal lease sale to date.”<sup>44</sup> At the national level, environmentalists exclaimed, Secretary Watt’s coal leasing program was even more massive. “Secretary Watt plans to sell in the next 18 months almost 16 billion tons of coal. That is just 2 billion tons short of all the Federal coal that has been leased, since the Mineral Leasing Act was passed in 1920,” stated Brook Yeager with the Sierra Club.<sup>45</sup>

Environmental groups argued that current and projected energy markets did not justify the leasing of such a large bulk of federal coal. The basis for environmental groups’ claims was that federal law, under Section 3 of the Coal Leasing Act of 1976, required companies to develop federally leased land within a ten year period. (Coal companies were petitioning Congress to change Section 3 of this Act during this period.) Based on this regulation, environmental groups said that energy markets “were already glutted with Tribal, state, private, and federal coal [and that] the market clearly cannot absorb both their [the BLM’s] competitive and preference right leases by 1993,” which marked the ten year period after which the San Juan Basin leases would be issued and

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<sup>43</sup> David Webb, Friends of the Earth, Oral Statement, in *Ibid.*, 268 and 269.

<sup>44</sup> “We Have Washington’s Attention!!!” 2 May 1983, in McDonald Papers, box 2, folder 15.

<sup>45</sup> Brook Yeager, Sierra Club, oral statement, in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 272.

would therefore be required to be actively producing coal for markets.<sup>46</sup> Environmental organization cited energy studies to back up their claims that the current and projected energy markets did not warrant increased coal leasing. Kathy McElmury, who represented environmental groups opposed to coal leasing in the San Juan Basin, cited a United States Office of Technology Assessment report that “determined in a field study in New Mexico that we can increase our coal production here in State to 67 million tons—not 5 or 10 million—by 1990 without new competitive leasing.”<sup>47</sup> And Alison Monroe, affiliated with the environmental group Southwest Research and Information Center, issued a news release reporting that the New Mexico State Energy Research and Development Institute showed there is not demand for the coal that would be leased in New Mexico.<sup>48</sup> Citing the same study, Friends of the Earth said that demands for coal could be met until the year 1990 “without new leases, PRLAs, the Star Lake Railroad or expansion of existing mines.”<sup>49</sup>

As environmental groups argued that coal should not be leased based on market demands, they also asserted that Public Service Company of New Mexico (PNM) did not need to build its new power plant in the Chaco-Bisti area because there was no market demand for the energy that this power plant would produce. PNM planned to build its

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<sup>46</sup> Ad Hoc Coal Task Force, News Release, 6 May 1983, page 6, McDonald Papers, box 2, folder 15.

<sup>47</sup> Kathy McElmury, Taos Environmental Association and Committee on Coal, Oral Statement, in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 130.

<sup>48</sup> Ad Hoc Coal Task Force, News Release, 6 May 1983, page 6, McDonald Papers, box 2, folder 15.

<sup>49</sup> Friends of the Earth to BLM, 8 April 1983, Washington, D.C., in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letters*, CL-121-122. For other examples of environmental groups contesting energy market demands, see Environmental Defense Fund to BLM, 7 April 1983, Berkeley, California, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letters*, CL-113; Committee on Coal to BLM, 8 April 1983, Albuquerque, New Mexico, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letters*, CL-148.

coal-fired New Mexico Generating Station on land that it hoped to acquire from the BLM through a land trade. The Committee on Coal, an Albuquerque-based coalition of environmental groups, pointed out that PNM's own energy estimates did not indicate a need for the power plant. And according to the Committee on Coal's figures, only 30% of this plant's electricity would be used within New Mexico, while PNM would sell the remaining 70% to out-of-state markets.<sup>50</sup>

Issuing coal leases into an energy market that did not demand more energy production, environmental groups argued, would only benefit corporations and encourage speculation. In a news letter issued by a coalition of environmental groups opposed to coal mining in the San Juan Basin, environmentalists claimed that the BLM was "intent on leasing far more coal than can be absorbed by the market, thereby guaranteeing an inadequate price for these public resources and encouraging speculation on the leases by the coal companies."<sup>51</sup> Another environmentalist Karl Gawell, the legislative representative with the National Wildlife Federation, repeated this message: "What we have seen is a process driven by industry desire to acquire huge stockpiles of Federal coal, not by any need for production in the near future."<sup>52</sup> James Cannon, with Citizens for a Better Environment, elaborated on the nature of how environmentalists feared that corporations might use federal coal leases for speculative

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<sup>50</sup> Committee on Coal to BLM, 8 April 1983, Albuquerque, New Mexico, in *Ibid.*, CL-148.

<sup>51</sup> *The Chaco-Bisti News*, no. 3, Spring 1983, page 3, copy in McDonald Papers, box 2, folder 15. The *Chaco-Bisti News* was a newsletter issued by the Committee on Coal. Its organizing members included: Sierra Club, Rio Grande Chapter; Crownpoint Citizens Alliance; The New Mexico Audubon Council; Santa Fe Alliance; and Taos Environmental Association.

<sup>52</sup> Karl Gawell, National Wildlife Federation, Oral Statement, in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 263.



purposes. He wrote that Peabody Coal Company leased government-owned coal in 1966 for as little as \$3.00 per acre only to later sell the lease to Shell Oil Company for \$17,000 per acre in 1981.<sup>53</sup> The DOI's fast-tracking of coal leases into corporate hands was not only unnecessary, environmental groups said, but such a leasing program would grossly benefit corporate interests in acquiring public-coal resources while disregarding the public's interests in and ownership over these resources.

Environmental groups also argued that if the federal government released as much coal as they planned to through the DOI's intensive leasing program, then the federal government would not receive fair-market value for its coal. Environmentalists' focus on "fair market value" was very intentional because this term held legal weight: the Coal Leasing Amendment Act of 1976 required by law that the federal government receive fair-market value for publicly owned coal that it leased to corporations. Fair-market value specifically applied to the bids that corporations paid for competitive leases, and not the royalty rates—fixed at 12.5%—that the federal government received when corporations sold federally owned coal. In making the criticism that the government would not receive fair-market value under Watt's coal leasing program, environmentalists only needed to point to other federal government agencies. A Government Accounting Office (GAO) report stated that corporations underpaid the federal government \$100 million during a 1981 coal-lease sale in the Powder River Basin located along the Wyoming-Montana border; this lease constituted the largest lease of

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<sup>53</sup>James S. Cannon On Behalf of Citizens for a Better Environment to BLM, 14 January 1983, Committee on Coal to BLM, 8 April 1983, Albuquerque, New Mexico, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letters*, CL-78.

federal coal in history up to that point. The GAO report called for Secretary Watt to halt further coal leases until discrepancies between GAO and DOI methods for calculating the value of federal coal could be analyzed. The GAO report also raised the possibility that corruption occurred in the Powder River Basin coal lease sale. The DOI, under Watt, revised the coal-lease bidding system—based on sealed bidding—but the GAO study indicated that DOI memo indicated that the minimum acceptable bid had been leaked. The GAO recommended that Secretary of Watt suspend future coal leases until this and other matters could be investigated.<sup>54</sup>

Environmental groups used the GAO report to foster opposition to coal mining in the San Juan Basin. Environmental made the GAO available for people to look at before a congressional hearing was held in Santa Fe to address coal leasing in the San Juan Basin and whether to designate the Bisti Badlands as a wilderness area.<sup>55</sup> Even though the GAO report stated that it could not confirm whether or not corruption occurred in the DOI's leasing program, environmental groups used the report as fodder to build opposition against the San Juan Basin coal lease. More than just echo the findings of the GAO report, though, environmentalists used the methods of the GAO report. As the GAO made its own calculations to determine the value of the Power River Basin coal, Alison Monroe and Dave Marcus, affiliated with the Committee on Coal, also made their own calculations (based on a DOI equation) to determine the value of San Juan Basin coal and how much of this coal should be leased based on market needs. coal should be

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<sup>54</sup> "GAO Says Government Sold Coal Leases Cheap," *Albuquerque Tribune*, 11 May 1983, copy in McDonald Papers, box 2, folder 15.

<sup>55</sup> "Task Force for San Juan Coal Congressional Hearings," n.d., page 4, McDonald Papers, box 2, folder 15.

leased in the San Juan Basin. With their own numbers in hand, Monroe and Marcus argued, “Both the Goals and Targets [leasing targets for San Juan Basin coal] have been heavily fudged in the direction of massive leasing. If Carruthers [the assistant secretary of the interior], the [San Juan Basin] Regional Coal Team and the DOE had done the calculations in an unbiased way, the result would have shown that no new leasing in the San Juan Basin is necessary.”<sup>56</sup>

The core of environmentalist frustrations over coal leasing in the San Juan Basin (and other public lands) was their having no control over the decisions of where and how much coal would be leased. Public participation in coal resource development, argued Johanna Wald with Natural Resources Defense Council, did not occur until the DOI and the BLM had established already the parameters of resource development, such as coal leasing levels. Wald criticized this centralized resource development plan as circumventing true public participation EIS processes for coal development, and she felt that coal-resource development plans made “the owners of the coal mere observers of the leasing process.”<sup>57</sup>

Corporations pointed to their right to lease federal coal and market needs for increased energy production, which, as discussed, environmentalists heavily contested. But corporations also emphasized how coal mining and energy production in the Chaco-Bisti area and the greater San Juan Basin would serve the economic interests of the

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<sup>56</sup> Alison Monroe and Dave Marcus, for Committee on Coal and Southwest Research and Information Center, “Some Observations on the San Juan River Regional Preliminary Leasing Target and the DOI Final Regional Production Goals,” in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 446.

<sup>57</sup> Johanna Wald, Natural Resources Defense Council, Oral Statement, in *Ibid.*, 267.

larger community rather than stressed how coal development would serve their own economic interests. Robert A. Jackson, with Sunbelt Mining, suggested that “a sizable coal mining industry can only benefit the citizens of the region [as unemployment] in San Juan and McKinley Counties is over 15 percent, while among Navajo residents unemployment reportedly is 70 percent of higher.” Jackson argued that a “20 million tons/year of new coal production capacity in the Basin would” would solve these unemployment problems by creating direct mining-related employment and indirect jobs that served this primary mining economy. Not only would such a coal-based economy benefit the local economy, Jackson claimed, but it would also “contribute \$40 million annually in direct state taxes, \$50 million annually in [federal] royalties (one-half [going] to the state).” Beyond only economic prosperity, Jackson argued, coal mining would provide the social benefit of keeping Navajo youth with local employment rather than their having to leave the area to seek work.<sup>58</sup>

Based on environmental groups’ well developed criticism that energy production would not benefit the economy of the region, it seems that they were prepared for this long-used corporate discourse that conflated energy development with social and economic progress. One way that environmentalists challenged this discourse was by extending their criticism the energy market did not necessitate coal-development in the San Juan Basin to their assertion that increased coal leasing would

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<sup>58</sup> “Statement of Robert A. Jackson, Manager of Corporate Affairs, Sunbelt Mining Company, Inc., in *Ibid.*, 402 and 403. For economic arguments made by corporate officials, see “Statement of Sheridan A. Glen, Assistant Vice President, Arch Mineral Corporation,” “J.B. Murlcok, Jr., [Sector Vice President of Corporate Affairs at Public Service Company of New Mexico] Before House Interim Subcommittee,” and “Statement of David J. Walsh, Senior Vice President, Santa Fe Pacific Railroad Company,” all in *Ibid.*, 381, 386, and 405.

not necessarily result in increased coal production and subsequent employment and other economic benefits. David Marcus, an independent energy consultant who did work for the Southwest Research and Information Center, said: “How can I say leasing will not increase jobs, taxes, or production? The answer is easy. Coal production is based on demand and leases will not be developed without a market. The BLM’s market analyses [of the market need for San Juan Basin coal] are either nonexistent, out of date [sic], or outright deceptions.”<sup>59</sup> Brooks Yeager with the Sierra Club made a similar remark, only directed at the national-scale: “16 billion tons of coal are being effectively dumped on a slack coal market in which 75,000 miners are currently out of work. We see no economic justification for that.”<sup>60</sup>

Whether or not increased coal development would have been in the community’s interests is open to debate. There is some indication that increased coal leasing in the San Juan Basin would not have produced more local employment nor would it have benefitted the State of New Mexico in terms of tax revenue. A study of energy development’s impact on the Southwest region and specifically the Navajo reservation stated that the opening of mines or power plants creates scenarios in which local communities “are in fact severely disadvantaged by the development because of increasing costs and declining amount and quality of service,” while only some people improve their economic situation temporarily with initial-phase construction employment. The study suggested that in order for the Southwest to be a primary

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<sup>59</sup> David Marcus, Independent Energy Analyst on behalf of the Committee on Coal, Southwest Research and Information Center, and Environmental Defense Fund, Oral Statement, in *Ibid.*, 71.

<sup>60</sup> Brooks Yeager, Sierra Club, Oral Statement, in *Ibid.*, 266.

exporter of energy and energy resources, the region “must import most of the capital and labor needed to construct and operate the production and extraction facilities.”<sup>61</sup>

Carol Garner, who was affiliated with the Crownpoint Citizens Alliance, a Navajo community organization opposed to coal mining in the San Juan Basin, seemed to be directly referring to this study in her criticism of coal-energy development in the Chaco-Bisti region. Speaking at a congressional hearing on coal development in the San Juan Basin, she said, “It is unlikely that skills training programs would be provided to local residents to assure local hiring, nor is there any indication that there would be preferential hiring agreements and contracts [for placing Navajos into jobs]. In fact, studies of industrial development in rural communities show that unemployment may actually increase because of the inflow of people seeking jobs.”<sup>62</sup>

It is clear, however, that both locals both supported and opposed coal-energy development. The Farmington community and its political representatives generally supported coal development and other energy development. Their support makes sense because Farmington’s economy was based on energy extraction and energy production. Farmington political representatives particularly believed that energy development would bring their community economic salvation. State legislator Jack Morgan, who represented the Farmington area, supported PNM’s New Mexico Generating Station, the issuance of PRLAs, and the additional issuance of competitive

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<sup>61</sup> Allen Kneese and F. Lee Brown, *The Southwest Under Stress*, 191. Chapter 9 of this study, entitled “Economic Effects of Large-Scale Energy Development in the Southwest,” focuses on the Glen Canyon Dam, the Navajo Power Plant (on the Navajo Reservation) and the Black Mesa Mine (also on the Navajo Reservation) as a case study.

<sup>62</sup> Carol Garner, Crownpoint Citizens Alliance, Oral Statement, in *Ibid.*, 143.

leases on federal land. Morgan so adamantly supported coal development in the San Juan Basin that he tried to get the State of New Mexico to build the railroad to the Chaco-Bisti and Star Lake region to aid corporations in bringing this coal to market. Morgan echoed corporations—or corporations echoed Morgan—who said, “Obviously, the jobs and economic stimulus available from these proposed developments are of paramount importance in our region” where unemployed rates ran at 15% and “has been estimated to be substantially higher” for Navajos.<sup>63</sup>

And corporations used the Farmington-area support for energy development—as expressed by Morgan—to justify their own interests in developing the San Juan Basin. Sheridan A. Glenn, with Arch Mineral Corporation, said: “There is no concerted effort by the people who live in San Juan County to deter coal mining. In fact, the opposite is true. The largest town in San Juan County is Farmington. Every public opinion poll that we have ever conducted in that town showed overwhelming support for coal leasing and mining in San Juan County.”<sup>64</sup>

But many of the Navajo Chapters located where coal mining was planned opposed coal mining for reasons that I will discuss in the next chapter. Here it is only necessary to point out that real opposition to coal mining did take place and that some Navajos did not trust the corporate discourse that linked energy development with their

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<sup>63</sup> Testimony of State Senator Jack W. Morgan, in *Ibid.*, 323. For other examples backing energy development, see letter from Aztec Chamber of Commerce to Bureau of Land Management, 19 January 1983, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letters*, CL-59. San Juan County Resolution #82-83-39, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letters*, CL-59. Dee J. Montano, Mayor of Farmington to Bureau of Land Management, 5 April 1983, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letters*, CL-61.

<sup>64</sup> Sheridan A. Glenn, Vice President of Arch Minerals Corporation, Oral Statement, in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 381.

communities' economic progress. Burton Nascal, representing the Pueblo Pintado Chapter House, located in the Chaco-Bisti region and near where corporations planned coal-energy development, said: "I heard this morning [during a congressional hearing] that the State is going to get some money and the Federal Government, but nothing was mentioned that the people that live out there don't get no money from all the money that would be made by coal. Then in the past, we have large companies going through our community. They never gave us anything for their project going through our community."<sup>65</sup>

Despite Nascal's resentment that the State of New Mexico and other governmental agencies would benefit from energy development but not his community, the state government held its own reservations over energy development. State governments' held interest in federal coal because the federal government split the 12.5% royalty with states fifty-fifty. Governor of New Mexico Tony Anaya, Representative Bill Richardson, and Senator Jeff Bingaman all expressed concern that the Department of Interior's San Juan Basin coal lease would turn into another Powder River Basin coal lease. Governor Toney Anaya advocated for an 18-month coal lease moratorium until the government could sort out the need, value, and environmental effect of the DOI's coal leasing program. Environmental groups generally supported Anaya's call for a moratorium on federal coal leasing.<sup>66</sup>

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<sup>65</sup> Burton Nascal, Rancher and Representative of the Pueblo Pintado Chapter, Oral Statement, in *Ibid.*, 83.

<sup>66</sup> See Toney Anaya, Governor of New Mexico, Oral Statement; Jeff Bingaman, U.S. Senator from the State of New Mexico, Oral Statement; and Bill Richardson, U.S. Representative from the State of New Mexico Oral Statement; all in *Ibid.*, 3 and 4. Environmental groups largely supported these politicians and hosted



The San Juan Basin like many public lands was a landscape intimately linked to government power and corporate power. The Reagan administration and corporations together planned to carve portions of the San Juan Basin into a landscape of coal strip mines and power plants. The BLM, under the direction of Secretary Watt, attempted to deliver large tracts of federally owned coal into the hands of private corporations. And corporations justified their ownership of publicly-owned resources by tracing their rights to the Mineral Leasing Act of 1920 rather than the more recent and environmentally stringent Surface Mining Act of 1977. They declared that the energy markets required large-scale leases of federal lands and coal resources. And they argued that energy development would bring economic prosperity to the region.

Environmental groups challenged both government and corporate rationales for large-scale coal energy development in the San Juan Basin. They argued that the PRLAs issued in the Chaco-Bisti region were not valid. They contended that such a massive coal-leasing program on federal lands would inundate the energy market with an overabundance of coal and would promote speculation. And they argued that because there was no market need for San Juan Basin coal the economic benefits in the region would be minimal—and any economic benefits that did come along with coal-energy development would not go directly to the local community but rather to incoming

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a gathering for democratic congressmen who oversaw the congressional hearings on the Bisti Wilderness and coal energy development (Jim Weaver, John Seiberling, and Bill Richardson). See “Task Force for San Juan Coal Congressional Hearings,” n.d., 1 and 2, McDonald Papers, box 2, folder 15. For various materials showing general environmentalist support for Bingaman, Richardson, and Anaya are found in McDonald Papers, box 2, folder 15. For environmentalist support for Anaya’s call for a coal-leasing moratorium, see Ad Hoc Coal Task Force, News Release, “Environmentalists Applaud Governor’s Request for Coal Leasing Deferral,” 6 May 1983, McDonald Papers, box 2, folder 15.

populations attracted by the large-scale development. Environmentalists embedded their criticism of coal development in the San Juan region within a larger critique of Secretary Watt's and what they viewed as his giveaway of public resources to private industry. Environmentalists not only formed strong opposition to corporate and federal power over the public domain, but they also allied themselves with politicians who opposed coal development orchestrated by the Reagan administration. The government-corporate bloc that pushed for energy development was not a monolithic structure as some federal politicians seemed to side more with environmental groups' attempts to stop coal energy development in the San Juan Basin. By focusing more closely on the Chaco-Bisti region we can better see how both environmental groups and Navajo groups advanced their own land use agendas within the San Juan Basin.

## CHAPTER 4

### WILDERNESS, GRAZING LAND, OR STRIP MINES: ENVIRONMENTALISTS, NAVAJOS, AND CORPORATIONS CONTEST THE CHACO-BISTI

While corporations attempted to legitimize their claim and access to public lands and resources of the San Juan Basin, environmental groups and Navajo groups who opposed coal development staked their own claim in this region. Environmental groups and Navajo groups each developed distinct, if sometimes overlapping, rationales for opposing coal mining and energy generation in the San Juan Basin. Environmental groups particularly focused on the fact that the federal government charged its land managers to oversee the public domain according to multiple values—recreation, wilderness, ecology, and development—and not only according to resource extraction. Wilderness designation in the Chaco-Bisti region particularly concerned environmental groups. Navajo opponents to coal strip mining viewed this resource development as another chapter in a long story of Euro-Americans seizing their ancestral land. For Navajos who opposed coal mining, the feasibility of mining reclamation figured among the top reasons for their opposition coal strip mining: if land reclamation failed, their lifestyles and economies, which were rooted in cattle and sheep herds, would also collapse. Corporations and the BLM developed their own rationales regarding wilderness and mining reclamation that often conflicted with that of environmentalist and Navajo opponents to coal energy development.

Within the political context that saw the rise of the Sagebrush Rebellion during the late 1970s and early 1980s—and with Secretary Watt directing the public domain—

environmentalists felt that coal development trumped other interests in the Chaco-Bisti region. Alison Monroe, with the Southwest Research and Information Center, argued that the BLM failed to “balance the public interest against private demand for coal resources” and failed to adequately acknowledge “the very strong opposition to this kind of development among most of the people [rural Navajo residents] that live in the area to be mined.” Monroe advocated that “local residents, their water sources and grazing opportunities, wilderness and scenic areas, archaeological and paleontological resources, and the costs of reclamation and transportation” should be considered before the BLM leased public lands for coal mining.<sup>1</sup>

Much of the environmentalist discourse built around the Chaco-Bisti region during the early 1980s centered around four issues: aesthetic values (unique and spectacular scenery), scientific value (archaeological and paleontological resources), and cultural values (rural and traditional Navajo lifestyles and economies), and wilderness values (designation of protected wilderness areas). In preparation for the congressional hearing on coal mining development and wilderness protection of the Chaco-Bisti region, an alliance of multiple environmental groups outlined their concerns with coal mining in an information sheet that they mass-mailed to their various supporters. Mining, the statement read, threatened areas “noted worldwide for their scenic, historic, paleontological, and archaeological values.”<sup>2</sup> At the congressional hearing itself, John Colburn, chairman of the Rio Grande Chapter of the Sierra Club, echoed this

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<sup>1</sup> Alison P. Monroe, Southwest Research and Information Center, to C.W. Luscher, State Director, Bureau of Land Management, 8 April 1983, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letters*, CL-144.

<sup>2</sup> “Action Alert!” 15 February 1983, McDonald Papers, box 2, folder 15.

agenda. He stated, “Overlying the coal in the basin are resources whose value far exceeds that of the coal, resources that have no price because they can never be replaced, once they have been disturbed. The cultural, social, archaeological, paleontological resources in the basin must be carefully considered before they are lost forever to the bulldozer and the dragline.”<sup>3</sup>

Compared to the coal gasification development controversy that took place during the mid-1970s, environmental groups were much more active in emphasizing negative impacts that energy development would have on Native Americans. As a strategy for press coverage of coal development and wilderness designation in the Chaco-Bisti region, environmental groups focused on how coal mining would displace Native Americans who lived in the area, psychologically harm Navajos by impacting religious sites and gravesites, and disrupt Navajo lifestyles and cultural values.<sup>4</sup>

Archibald McCallum, the Conservation Chairman for the New Mexico branch of the Audubon Society, listed these threats to Navajos as his primary concern over coal-energy development at a congressional hearing on the matter, saying, “Most importantly, Mr. Chairman, at least for me, we want the people who live in the Chaco-Bisti area, many of whom can’t and don’t want to speak English, and all of them don’t want to see their homes and livelihoods destroyed, to be able to live there in peace as long as they wish.”<sup>5</sup>

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<sup>3</sup> John Colburn, Sierra Club, Oral Statement, in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 136.

<sup>4</sup> Task Force for San Juan Coal Congressional Hearings, 19 April 1983, McDonald Papers, box 2, folder 15.

<sup>5</sup> Arch McCallum, New Mexico Audubon Council, Oral Statement, in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 68.

Rather than using Navajo Indians simply as a means for building opposition to coal strip mining, however, environmental groups allied with Navajo organizations that also opposed the coal mining planned for the Chaco-Bisti region. The consortium of nine environmental groups responsible for building opposition against coal-energy development also included two Native American organizations: the National Indian Youth Council and the Crownpoint Citizens' Alliance.<sup>6</sup> Leonard Tsosie, with the Crownpoint Citizens Alliance, organized opposition against the coal mining through various means. He took out an ad in the *Navajo Times*, distributed an oppositional flier at the chapter houses in the Chaco-Bisti area, and set up meetings to get people to attend a congressional hearing on the matter. The coalition of environmental groups directly supported these measures for building local Navajo opposition to the energy development proposed for the Chaco-Bisti region.<sup>7</sup>

But environmental groups focused on wilderness designation as their primary means for opposing coal development in the Chaco-Bisti region. Notions of pristine landscapes factored less in environmental groups' ideas regarding wilderness than the pragmatic fact that wilderness designation of areas in the Chaco-Bisti area proved a valuable political tool for contesting coal-energy development. Environmental groups

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<sup>6</sup> Mailing pamphlet, "We Have Washington's Attention!!!" 2 May 1983, McDonald Papers, box 2, folder 15. Memorandum from L. Taylor and A. Monroe, Ad Hoc Coal Task Force, to Public Affairs and News Directors, 2 May 1983, McDonald Papers, box 2, folder 15. Both of these documents list the coalition of Navajo and environmentalist groups that united to oppose coal development in the San Juan Basin.

<sup>7</sup> "Task Force for San Juan Coal Congressional Hearings," n.d., 3, McDonald Papers, box 2, folder 15.

not only sought wilderness designation for Wilderness Study Areas (WSAs) within the Chaco-Bisti area, but also pushed legislators and the BLM to expand WSA boundaries.<sup>8</sup>

Wilderness designation of BLM-managed lands is rooted in the Federal Land Policy Management Act of 1976 (FLPMA). This act, among other things, required that BLM land managers categorize public domain lands under their charge as either wilderness or multiple use areas. FLPMA factored particularly important to BLM-managed lands, which prior to the act did not receive wilderness designation. The Forest Service, under the Department of Agriculture, designated lands as wilderness since the Wilderness Act of 1964 and had its own administrative form of wilderness designation before this act.<sup>9</sup> Between 1977 and 1979, the BLM and the Forest Service, as mandated by FLMPA, evaluated land for wilderness eligibility: they designated 15 million acres of public land as wilderness, 36 million acres as multiple-use lands, and 11 million acres as left subject to further wilderness review and therefore closed to development.<sup>10</sup>

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<sup>8</sup> Environmentalists' focus on wilderness as a pragmatic tool for opposing coal development breaks from some critics of wilderness who see the idea of wilderness and the designation of wilderness areas as being rooted in nineteenth century romantic ideals, such as William Cronon outlines in his essay, "The Trouble with Wilderness; or, Getting Back to the Wrong Nature" *Environmental History* 1, no. 1 (January 1996): 7-28. My conception of wilderness as a tool for opposing large-scale resource development most aligns with Kevin R. Marsh, *Drawing Lines in the Forest: Creating Wilderness Areas in the Pacific Northwest*, Weyerhaeuser Environmental Books (Seattle: University of Washington Press, 2007). In this book, Marsh writes that for environmental activists fighting for wilderness designation in the Cascade Mountains from the 1950s to the 1980s "the mythology of a pristine wilderness was less important than environmental concerns over industrial logging practices and access to timber resources . . . For them, 'wilderness' was mainly a form of land use in which—in contrast to most areas in the national forests—road building, logging and other forms of industrial development were not allowed." See p. 6.

<sup>9</sup> Short, *Ronald Reagan and the Public Lands*, 12.

<sup>10</sup> Short, *Ronald Reagan and the Public Lands*, 12. For an overview discussion of the Federal Land Management Policy Act of 1976 and the larger context of Bureau of Land Management and Forest Service land management, see Clawson, *The Federal Lands*, 112-120.

FLPMA established the legal precedent under which WSAs within the Chaco-Bisti area were established. In 1979, the BLM accelerated their study of WSAs in the Chaco-Bisti area due to the possibility of coal mining. Following the guidelines of the newly implemented FLPMA, the BLM designated three areas of badlands in the Chaco-Bisti region as WSAs: Bisti, De-na-zin, and Ah-shi-sle-pah. Authorization from congress and the signature of the president, however, ultimately determined whether or not a WSA would be converted into an official wilderness area.<sup>11</sup>

The BLM defined wilderness within very specific parameters that either qualified or disqualified a given area for wilderness designation. Most fundamentally, the BLM defined the wilderness potential of a given area on the premise of its “naturalness,” or the relative absence of human-created structures or roads in a given area. In terms of recreation, the BLM required very specific types of wilderness-value recreation, stating that that these areas must “possess either outstanding opportunities for solitude, or outstanding opportunities of primitive and unconfined recreation.” The BLM defined this type of recreation as non-motorized and non-development forms of recreation, such as hiking, horseback riding, landscape photographing, and sightseeing. And, lastly, unique characteristics—or what the BLM called “special features” of a place—factored into wilderness designation. The BLM identified the Bisti, De-Na-Zin, and Ah-Shi-Sle-Pah areas as potential wilderness areas based on factors of aesthetics and science. The BLM primarily identified the badlands landscape—defined by hoodoo and spire rock formations—and the abundant fossilized dinosaur and plant remains found in these

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<sup>11</sup> USDI BLM, *Draft Proposed Wilderness Areas Environmental Impact, Statement: Bisti, De-Na-Zin, and Ah-Shi-Sle-Pah*, (Albuquerque: District Office, 1982), 1-1.



areas as constituting unique places for people to experience natural scenery and scientific study. Environmental groups largely emphasized the BLM's own parameters for wilderness designation—uniqueness of landscape (in terms of aesthetics and scientific study), recreational potential, and wilderness characteristics—to make their legal and political case for wilderness designation. On the basis of these rationales, after all, the BLM set out to objectively recommend to the secretary of the interior whether or not these areas should be designated as wilderness areas.<sup>12</sup>

The conflicting agenda for coal mining and electricity generation in the Chaco-Bisti area, however, strongly influenced the BLM's backing of wilderness designation for the Bisti, De-Na-Zin, and Ah-Shi-Sle-Pah WSAs. In its 1981 management plan for the Chaco-Bisti area, the BLM determined that the Bisti area and De-Na-Zin areas met the bureau's criteria for wilderness designation. Even if Congress failed to designate Bisti and De-Na-Zin as wilderness areas, these areas would have had some protection from resource development as the BLM planned to manage them as Areas of Critical Environmental Concern. However, the BLM decided to recommend that Ah-Shi-Sle-Pah not be designated as a Wilderness Area. The BLM gave two rationales for its reasoning, saying, "Ah-Shi-Sle-Pah is considered unsuitable to be added to the National Wilderness Preservation System due to the coal resources present and the existence of similar land forms and recreational opportunities in other nearby Wilderness Study Areas [Bisti and De-Na-Zin]." In the Bisti WSA, only 320 acres of PRLAs overlapped with the proposed wilderness boundary that covered an area of roughly 4,000 acres, and development of

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<sup>12</sup> USDI BLM, *Draft Proposed Wilderness Areas Environmental Impact, Statement: Bisti, De-Na-Zin, and Ah-Shi-Sle-Pah*, C2; A4 and A5; 1-1.

these leases was unlikely. Corporations held PRLAs for coal mining in the twenty-thousand-acre De-Na-Zin WSA, but due to the depth of the coal only subsurface mining was possible in this WSA. Mining companies were primarily interested in strippable coal, and the Ah-She-Shi-Pah WSA contained an estimated 320 million tons of coal that could be strip mined. The estimated values of the coal sat at \$4.6 billion dollars, and given that it could be surface mined made the coal much more attractive than the coal in the De-Na-Zin area. Corporations held PRLAs for coal mining that covered 5,255 acres out of the 6,563-total acreage of the Ah-Shi-Sle-Pah WSA. Wilderness designation of Ah-Shi-Sle-Pah, then, would have blocked corporations from seizing a public resource worth a sizable sum of money—and the federal government from receiving its share of these profits in the form of royalty payments.<sup>13</sup>

Corporations supported wilderness designation for the Bisti WSA, which had the least coal resources, but they strongly contested wilderness designation of the Ah-Shi-Sle-Pah WSA, which had the most coal resources. Sheridan A. Glen, vice president of Arch Mineral Corporation, attempted to strike a harmonious chord in stating that wilderness and energy development could co-exist in the San Juan Basin. He called the region “a diverse area, a veritable mother lode of energy with enough environmental symbiosis to allow coal mining and wilderness protection to coexist in the same region.” Sheridan openly stated that his company supported wilderness designation of the Bisti

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<sup>13</sup> BLM, “Coal in the Chaco/San Juan: Land Use Recommendations for Public Review,” Farmington Resource Area, Bureau of Land Management, [1981], p. 8 and 14, copy in McDonald Papers, box 2, folder 15. BLM, “Coal in the Chaco San Juan: An Information Sheet on Work-In-Progress for the Chaco/San Juan Planning Update for Coal,” 26 August 1981, copy in McDonald Papers, box 2, folder 15. USDI BLM, *Draft Proposed Wilderness Areas Environmental Impact, Statement: Bisti, De-Na-Zin, and Ah-Shi-Sle-Pah*, A-8, 1-12, B-8, C-6, and C-5.

and De-Na-Zin areas. However, his company held two PRLAs within the Ah-shi-sle-pah Wilderness Study Area, and Sheridan strongly protested wilderness designation of this area. His company made plans to mine the area as though it would not be designated for wilderness protection, as the 1981 BLM management plan recommended. Sheridan's harmonious discourse collapsed when he spoke about the one wilderness area that truly threatened his corporation's interests. He said that he "truly fail[ed] to recognize any genuine environmental [sic] related reason why Ah-shi-sle-pah go forward as a wilderness area" and "suspect[ed] that no genuine interest exists in the area except for the purpose of holding up leasing and mining." Dismissing the Ah-shi-sle-pah WSA, Sheridan said that perhaps twenty percent of the WSA should be preserved, but that "about 80 percent of Ah-Shi-Sle-Pah looks like western Kansas" and should be left open to mining. Undoubtedly, the 20% worth preserving that Sheridan identified was the small portion of Ah-Shi-Sle-Pah that did not hold coal resources that his company hoped to mine.<sup>14</sup>

Sunbelt Mining Company, a subsidiary of Public Service Company of New Mexico, also supported wilderness designation of the Bisti Wilderness Study Area. This support for the Bisti Wilderness area seems odd considering that this company already began mining land, which the State of New Mexico owned, that intruded into the proposed boundaries of the Bisti Wilderness. Sunbelt also held an adjacent and undeveloped lease that extended further into the Bisti WSA, covering some 1000 acres

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<sup>14</sup> "Statement of Sheridan A. Glen, Assistant Vice President of Arch Mineral Corporation," in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 382 and 370. Sheridan A Glen, Vice President of Arch Minerals Corporation, Oral Statement, in *Ibid.*, 62.

of the WSA, which the BLM issued in 1961. Sunbelt, however, negotiated with the BLM to exchange its lease for lands located one mile west of the Bisti WSA. This land was flatter and easier to strip mine than the broken-up terrain of the Bisti WSA and therefore would have been more profitable to mine.<sup>15</sup>

Robert Jackson, Sunbelt's manager of Corporate Affairs, said that his company supported a land exchange to remove its lease from the Bisti wilderness in exchange for nearby land. At a congressional hearing that focused on coal mining and wilderness designation in the San Juan Basin, Jackson described how Sunbelt had been negotiating with the BLM to trade federal coal leases for leases of equal value elsewhere. Jackson said that his company "applaud[ed] the efforts of the BLM to seek wilderness status" for the Bisti area. However, Sunbelt's support for wilderness seems to have gone only as far as the delineated boundaries of the Bisti WSA. Within one mile of the wilderness area, Sunbelt was interested in operating coal strip mines. Sunbelt held other nearby interest in strip mining projects that would have fueled their proposed New Mexico Generating Station, a mine-mouth power plant capable of generating 2,000 megawatts, and to fuel their more distant San Juan Generating Station, already operating near Shiprock.<sup>16</sup>

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<sup>15</sup> USDI BLM, *Final Bisti Coal Lease Exchange Environmental Assessment* (Albuquerque: New Mexico District Office, 1984), 1-1. Map 1-2 shows the original lease and the nearby area proposed for exchange; the contour lines show that the area to be exchanged covers much flatter terrain than the original lease, which is largely covered by broken terrain covered with rock outcropping that would make it difficult to mine.

<sup>16</sup> "Statement of Robert A. Jackson, Manager of Corporate Affairs, Sunbelt Mining Company, Inc.," in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 393.

Jackson attempted to keep wilderness areas circumscribed within small areas so as to not threaten his company's energy development plans in areas adjacent to WSAs. One way he did this was by trying to control the qualitative and scientific discourse built around the badlands region. Jackson attacked a BLM EIS that discussed how strip mining in land adjacent to the Bisti WSA—land that was fundamentally the same as the Bisti WSA—would disturb recreational and scientific values of a unique landscape. In response to this statement, Jackson argued that “not all badlands contain all, or even any, or the assumed [recreational and scientific] values” and he “took issue with the term unique natural landforms.” Trying to circumscribe wilderness in as of an area as possible, Jackson attempted to build a discourse and a science around badlands in such a way as to make these areas appear common. He did this by saying that federal governmental agencies had “mapped over 340,000 acres of badlands in off-reservation areas of San Juan County alone” and that his company would undertake “a thorough, professional review of both the extent of badland topography and the ‘uniqueness’ of badland features throughout the [San Juan] Basin.” Sunbelt Mining's focus on limiting the extent of the Bisti WSA was so intense because this corporation had already broken ground on their Gateway Mine, which abutted the Bisti WSA, and it held interest in mining a tract of land located one mile from the Bisti WSA. The company strongly feared expanded wilderness designation or other protective land statuses that might buffer this WSA, as advocated for by some environmentalists, because such as

expansion would jeopardize their corporate interest in mining land adjacent to the wilderness area.<sup>17</sup>

Environmental groups advocated for all three WSAs to be given wilderness status, and opposed wilderness bills that did not include all three areas. Dave Glowka, with the Rio Grande Chapter of the Sierra Club, dismissed Senator Domici's Bisti wilderness bill, which would have designated wilderness status for only the Bisti WSA area. Glowka argued that the wilderness qualities in the De-Na-Zin and Ah-Shi-Sle-Pah WSAs were "even greater than those of the Bisti Wilderness Study Area." Directly challenging Glen's description of Ah-She-Sli-Pah as looking like Kansas, Glowka said, "I drove through western Kansas two weeks ago and I didn't see anything that looked like Ah-shi-sle-pah." Glowka described Ah-She-Sli-Pah as a large wash "rimmed on the sides by very highly sculptured rock formations." In a calculated move, Glowka said that even the wash itself, where no rock formations arose above the natural grade of the terrain, had "wilderness characteristics" because "it offers outstanding opportunities for solitude and that's one of the very main requirements for wilderness [as defined by the BLM]."<sup>18</sup>

While corporate representatives attempted to minimize wilderness boundaries, environmental groups attempted to expand the wilderness boundaries proposed by the BLM. Cory McDonald, affiliated with the New Mexico Wildlife Federation and other environmental groups, argued that the wilderness boundaries proposed by the BLM did

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<sup>17</sup> Robert Jackson, Sunbelt Mining Company, to BLM, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letters*, CL-183.

<sup>18</sup> Dave Glowka, Sierra Club, Oral Statement, in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 73 and 79

“not provide the coverage . . . . to protect the badlands area.” McDonald envisioned wilderness designation for Bisti, De-Na-Zin, and Ah-Shi-Sle-Pah within a larger park preserve, such as a National Monument. The Sierra Club, Audubon, National Wildlife Federation, and New Mexico Mountain Club supported a similar proposal to designate wilderness areas “would go beyond the [BLM] sectional wilderness study designations now in place for Bisti, De-Na-Zin, and Ah-Shi-Sle-Pah and [to propose a wilderness area] based on the actual contours of the badlands.” Environmentalists wanted an expanded and unified tract of wilderness land, in part, to protect landforms and fossil remains similar to those found in the Bisti WSA, but also because this would have been a means for thwarting coal development near wilderness areas.<sup>19</sup>

However, McDonald’s proposal had little chance of materializing as it conflicted with the BLM’s official position to not recommend the Ah-Shi-Sle-Pah WSA for wilderness designation and to restrict buffering zones around wilderness areas. Alison Monroe, with the Southwest Research and Information Center, criticized the BLM for backtracking on its original intent to manage some 33,760 acres of land as an ACEC, which would have encompassed the greater area surrounding the Bisti and De-Na-Zin WSAs. In 1981, the BLM originally proposed that the Bisti and De-Na-Zin WSAs would be managed as ACECs, a land-status authorized by the FLMPA, even if Congress failed to designate these areas as wilderness. But by 1982, the New Mexico State Director of the BLM Charles Lusher, directed BLM field offices to not substitute ACECs for areas that congress failed to designate as wilderness and to not buffer wilderness areas with

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<sup>19</sup> Cory McDonald, New Mexico Wildlife Federation, Oral Statement, in *Ibid.*, 142. Task Force for San Juan Coal Congressional Hearing, 29 April 1983, McDonald Papers, box 2, folder 15.

ACECs. While the BLM originally proposed ACECs that were larger than the actual Bisti and De-Na-Zin WSAs, Lusher now attempted to circumscribe ACECs to very small tracts of land. Lusher said that the “small ACEC to protect the pictographs in the dropped Presilla wilderness inventory area is appropriate, but the proposed ACEC linkage of the Bist and De-Na-Zin WSA’s is not.” Lusher demanded that the BLM personnel create only small-acreage ACECs and said that “any potential ACEC exceeding 320 acres will normally receive my onsite review prior to designation.” This BLM directive aligned with corporations’ attempts to circumscribe WSAs and not environmentalists’ efforts to expand wilderness areas. Sunbelt Mining, in its attempt to limit the extent of the Bisti Wilderness area, seemed to speak directly to Lusher’s policy by stating that “BLM’s Wilderness Study Policy specifically prohibits creation of protective buffer zones around wilderness areas.”<sup>20</sup>

Environmental groups, however, did not oppose uniformly coal development outside of WSAs, and their emphasis on badland areas implied that they were open to coal development outside these areas. John W. Colburn, chairman of the Rio Grande Chapter Chairman of the Sierra Club, supported a lease exchange that would have withdrawn a coal lease within the Bisti WSA and traded it for a lease located one mile from the WSA. Colburn said that his chapter of the Sierra Club “approves of this land

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<sup>20</sup> BLM, “Coal in the Chaco/San Juan: Land Use Recommendations for Public Review,” Farmington Resource Area, Bureau of Land Management, [1981], p. 8 and 14, copy in McDonald Papers, box 2, folder 15. Instruction Memorandum No. NM-82-228 from BLM State Director Charles Luscher to BLM District Managers, 23 April 1982, copy in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 422. Instruction Memorandum No. NM-82-266, from BLM State Director Charles Lusher to District Managers, 24 May 1982, copy in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 423-426. Letter from Robert Jackson, Sunbelt Mining Company, to BLM, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letters*, CL-183.



exchange because it resolves one of the issues which has impeded the designation of the Bisti Badlands as a part of the National Wilderness Preservation System.” Far from taking hard-line environmentalist position, Colburn said the exchange was the “result of environmentalists, industry, and government working together to preserve a unique natural area while protecting economic interests.”<sup>21</sup> In a larger concession, it appears that environmental groups selectively focused on the Chaco-Bisti region in their opposition to coal-energy development, while remaining relatively silent on BLM and corporate plans for coal mining in the Southern portion of the San Juan Basin. These areas included the area surrounding Lee Ranch, where Santa Fe Industries planned to mine, and the Gallup region where Gulf Oil Corporation and its subsidiary Pittsburg and Midway Coal Mining Company already had been operating the McKinley Mine.<sup>22</sup>

But different environmentalists took different stances of compromise and opposition. Alison Monroe, with the Southwest Research and Information Center, supported the lease exchange in the Bisti area, but her support for the exchange was tempered with criticism. Monroe said that the original coal lease within the Bisti WSA could not have been developed because the Bisti’s status as a WSA barred such development, making it unnecessary for the BLM “to compensate the lessees with 28.7

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<sup>21</sup> Letter from John W. Colburn, Rio Grande Chapter of the Sierra Club, to Paul Applegate, Albuquerque District Manager, 13 June 1984, in USDI BLM, *Final Bisti Coal Lease Exchange Environmental Assessment*, 4-27.

<sup>22</sup> BLM, “Coal in the Chaco San Juan: An Information Sheet of the Federal Coal Program in the San Juan River Region,” 6 May 1983, McDonald Papers, box 2, folder 15. This document states: “Support for the proposed coal exchange between BLM and Santa Fe Pacific Railroad, in the Lee Ranch, Hospah, and Divide areas, came during the RCT’s [Regional Coal Team’s] public comment period, when several people associated with environmental or preservationist point of views sided with the railroad company. The coal exchange would give Federal coal to Santa Fe Pacific adjacent to its own coal reserves in the Lee Ranch area while trading railroad-owned coal reserves to BLM where it lies next to BLM competitive lease tracts.”

million tons of recoverable coal at the new location south of Bisti.” She felt that the Sunbelt Corporation would monetarily benefit from the lease exchange, and demanded that the BLM evaluate the new lease area for environmental impacts.<sup>23</sup> Dave Glowka, who like Colburn was with the Rio Grande Chapter of the Sierra Club, criticized the Bisti coal lease exchange based on mining reclamation feasibility. However, Glowka seemed to maintain a more narrow focus on keeping mining out of badland areas, which he thought could not be reclaimed, although he also questioned the feasibility of reclamation that took place outside these areas.<sup>24</sup>

There is some indication that the official position of the Navajo tribe at least partially supported wilderness designation of WSAs. In its comments to the BLM’s plans for allowing energy development within the San Juan Basin and the BLM’s planned wilderness designations, the Navajo Tribe, under Chariman Peterson Zah, expressed interest in the BLM considering “alternatives to proposed actions [for wilderness designation] which consider Bisti and Ah-shi-sle-pah as partial wilderness areas or Bisti and De-na-zin combined as one WSA.” Navajo support for wilderness designation likely hinged on the fact that wilderness areas still permitted livestock grazing. The Bisti Navajo community, for example, held a common grazing permit that overlapped with the Bisti WSA, but wilderness designation of this area did not bar livestock grazing.

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<sup>23</sup> Letter from Alison Monroe, Southwest Research and Information Center, to Paul Applegate, Albuquerque District Manager, 28 June 1984, in USDI BLM, *Final Bisti Coal Lease Exchange Environmental Assessment*, 4-30.

<sup>24</sup> Letter from Dave Glowka, Rio Grande Chapter of the Sierra Club, to Paul Applegate, Albuquerque District Manager, 28 June 1984, in USDI BLM, *Final Bisti Coal Lease Exchange Environmental Assessment*, 4-12 through 4-14. Both Glowka and Colburn represented the same chapter of the Sierra Club but seemed to have taken different stances on their degree of compromise with industry. This might reflect a difference in personality or a shift in the Sierra Club’s willingness to compromise as Glowka’s comment was made two years prior to Colburn’s.

Wilderness designation of Bisti also allowed Native Americans to collect plants and sand for ceremonial and medicinal purposes. And Native support for wilderness designation also likely hinged on the fact that wilderness designation did not preempt Navajo legal claims to wilderness areas under the Navajo-Hopi Land Settlement Act, which allowed the Navajo tribe to claim 35,000 acres of public land of their choosing. Environmental groups themselves were open to Navajo's taking ownership of portions of wilderness areas, such as Bisti, and "believed that some compromise [could] be worked out to accommodate the Navajos' legitimate rights in this area and maintain the bulk of their selection [of public lands under the Navajo-Hopi Land Settlement Act] while, at the same time, consolidating boundaries for areas preserved within the Bisti badlands."<sup>25</sup>

But the historical record is largely absent on the issue of whether Navajos supported wilderness designation in the Chaco-Bisti, and there is also reason to believe that local Navajos would have resisted wilderness designation. Although the creation of the Bisti Wilderness in 1984 allowed for livestock grazing "to be permitted to continue at its current level," the BLM would have managed livestock grazing more strictly than if the area had not been designated as a wilderness. Within the Bisti Wilderness, the BLM intended to transfer grazing authority from the Bureau of Indian Affairs to the BLM by 1988. Also the BLM planned to build sheep-proof fences along the northwest boundary of the Bisti Wilderness to "aid in the management of authorized livestock grazing in the

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<sup>25</sup> Comments on BLM's San Juan Basin Action Plan submitted by the Navajo Nation to Charles W. Lusher, State Director, Bureau of Land Management, 6 April 1983, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letters*, CL-68. USDI BLM, *Summary of the Draft Wilderness Management Plan: Bisti Wilderness, New Mexico* (Albuquerque: New Mexico District Office, 1986), 2. USDI BLM, *Draft Proposed Wilderness Areas Environmental Impact, Statement: Bisti, De-Na-Zin, and Ah-Shi-Sle-Pah*, B-7. Dave Glowka, Sierra Club, Oral Statement, in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 73.

wilderness.” It seems that local Navajo residents would have resented the BLM’s increased oversight of livestock grazing in the Bisti Wilderness area. Also one Navajo owned land within the Bisti Wilderness area and Navajos owned over 1,000 acres of Navajo allotment land within the northern portion of the De-na-zin WSA. The BLM considered partial wilderness designation of the De-na-zin to limit these land ownership conflicts, and this partial designation seems to be what the official Navajo Tribe supported. But it seems that Navajo landowners in the De-na-zin WSA would have particularly seen wilderness designation as a threat to their property and lifestyles.<sup>26</sup>

Rather than focus on wilderness designation as a means to oppose coal development, Navajos emphasized their historical claim to the San Juan Basin together with their current residency in the region as a means to legitimize their rights to the land and resources of this area. These rights, they argued, overrode BLM and corporate claims to the region. A branch of the Navajo Tribal Government, the Eastern Navajo Land Commission, drafted a resolution opposing coal mining in the Chaco-Bisti area. This resolution stated that: “History records the inhabitation by ancestral Navajos in the Mount Taylor area as early as the year 1582, a full four hundred years ago, and, to this date, Navajos continue to inhabit areas of northwest New Mexico [. . .] where the Federal Government is pursuing energy development without fully recognizing the concerns and unique ownership dilemma of the Navajo people living in these areas.”<sup>27</sup>

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<sup>26</sup> USDI BLM, *Summary of the Draft Wilderness Management Plan: Bisti Wilderness, New Mexico*, 2 and 3. USDI BLM, *Draft Proposed Wilderness Areas Environmental Impact, Statement: Bisti, De-Na-Zin, and Ah-Shi-Sle-Pah*, B-7.

<sup>27</sup> See Resolution of the Eastern Navajo Land Commission of the Navajo Tribal Council submitted to BLM, 2 March 1982, Crownpoint, New Mexico, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letter*, CL-61. For a similar comment that invokes ancestral lands, see: The Navajo Nation to

And local Navajo chapter houses listed their opposition to the “relocation of Navajos from their long-established residence” as among the top reasons why they did not support coal strip mining in the Chaco-Bisti area.<sup>28</sup>

Leonard Tsosie, who represented the Crownpoint Citizens Alliance, felt that the BLM minimized the potential impacts that energy development in the Chaco-Bisti region would have on local Navajos. According to BLM estimates, some 43 families would be displaced if only the PRLAs were leased and some 494 families would be displaced if the BLM issued the PRLAs and all of the tracts of land under consideration for competitive leasing.<sup>29</sup> Most of these families lived on Indian allotment lands, but the federal government claimed mineral rights to these lands. Some families also lived on public domain lands without holding any title to the land. Tsosie, however, argued that all of the Navajos living in the region—some 9,000 people, by his estimates—would “be affected directly by having the [San Juan Generating Station] plant there or the coal mining going on or the railroad [for transporting coal].” Tsosie couched his criticism of the BLM’s myopic analysis of social impacts to local Navajo residents within a larger narrative that the San Juan Basin was the longtime homeland of Navajos and that a longstanding history of American colonialism threatened their homeland: “These people, their forefathers have been living there before BLM even came into existence or before Washington was born and they [Navajos living on public domain land] are not

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BLM, 6 April 1983, Window Rock, Arizona, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letter*, CL-67.

<sup>28</sup> Resolution of Littlewater Chapter submitted to BLM, 5 May 1981, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letter*, CL-72; and Resolution of Nageezi Chapter submitted to BLM, 13 April 1981, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letter*, CL-72 and CL-73.

<sup>29</sup> USDI BLM, *Second Draft San Juan River Regional Coal Environmental Impact Statement*, xix and xxi.

being labeled as illegal occupants . . . [W]hat we're going to have is another long walk of the Navajo people [referring to the Bosque Redondo removal of Navajos in 1864]."<sup>30</sup>

Local Navajo communities and the tribal government held overlapping but not entirely uniform concerns about the proposed strip mining of the Chaco-Bisti area. The Navajo tribal government emphasized its conditional support for energy development as long as the development included the tribe in the decision-making processes and in the economic benefits. The tribal government stated, "Navajos always encouraged energy activities in their land and welcomed the energy companies. [But] often times these companies have neglected the Navajo concerns and did not share economic and other benefits of the project activities with the local Navajo residents." The tribal government followed this statement with a list enumerating seventeen social, economic, and environmental concerns about energy development. Foremost, the tribe demanded that Navajos be recognized as legitimate surface owners of land underlain by federal coal deposits in the Chaco-Bisti area. Specifically, the tribal government felt that the "Navajo Tribal Council and Chapters should be given the opportunity to participate in various decision making and resource management processes or activities."<sup>31</sup>

In a somewhat aggressive move to gain control over energy development in the Chaco-Bisti region, the Navajo tribal government claimed title to the public land that encompassed the Chaco-Bisti region. The Navajo-Hopi Indian Relocation Amendment

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<sup>30</sup> Leonard Tsosie, Crownpoint Citizens Alliance, Oral Statement, in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 81.

<sup>31</sup> Comments on BLM's San Juan Action Plan, submitted by the Navajo Nation to Charles Luscher, State Director, Bureau of Land Management, 6 April 1983, in USDI BLM *Final San Juan Basin Cumulative Overview and Comment Letter*, CL-68.

Act of 1980 allowed the Navajo Tribe to acquire title to 35,000 acres of public land in New Mexico. Congress enacted this legislation, ironically, as federal compensation for Navajos displaced by Peabody Coal Company's large-scale strip mining project on Black Mesa. The Navajo tribal government selected the Chaco-Bisti area—encompassing many of the PRLA leases and the land that PNM hoped to acquire for their power plant—as the 35,000 acres that they wanted to add to their reservation lands.<sup>32</sup> The Navajo tribal government asserted that “If the Navajo selection [of this land] is approved, the Navajo Tribe will have regulatory authority over lands upon which NMGS [New Mexico Generating Station] is to be built and other areas planned for competitive and preferred [PRLA] leasing. Due to its interest in the lands the Navajo Tribe would have to be a party to any leases of the lands.”<sup>33</sup> In an even bolder move, the Navajo Tribe claimed ownership of over two million acres of the San Juan Basin that the federal government owned. Although the Navajo Tribe filed a lawsuit to acquire this large chunk of the San Juan Basin, the claim did not hold as much legal weight as their 35,000-acre entitlement from the Navajo-Hopi Indian Relocation Amendment Act. The tribal government's move to claim these lands unambiguously illustrates how the tribe viewed the land as rightfully belonging to Navajos. However, the tribal government's intentions

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<sup>32</sup>Comments on BLM's San Juan Action Plan, submitted by the Navajo Nation to Charles Luscher, State Director, Bureau of Land Management, 6 April 1983, in *Ibid.*, CL-68. Also see Resolution of the Eastern Navajo Land Commission of the Navajo Tribal Council submitted to BLM, 2 March 1982, Crownpoint, New Mexico, in *Ibid.*, CL-63.

<sup>33</sup>Comments on BLM's San Juan Action Plan, submitted by the Navajo Nation to Charles Luscher, State Director, Bureau of Land Management, 6 April 1983, in *Ibid.*, CL-71.

for those lands seems to be somewhat mixed between the desire to stop energy development and the desire to participate in energy development.<sup>34</sup>

Few of the chapter houses, however, openly expressed support for energy development, even if they would have a stake in the development. The chapter houses opposed mining because it threatened their lifestyles, which depended upon access to grazing lands. Perhaps best illustrating how the rural local Navajo residents fell between the gaps of land use decisions in the Chaco-Biti area is a comment made by Franklin Sandoval who spoke on behalf of the Huerfano Chapter of the Navajo Nation:

Communication between the companies, the BLM and the Navajos grazers out there are still not adequate . . . . [W]e're in the area, we're neighbors on this thing . . . . [T]he Navajos that actually really use the land out there, are sometimes at a loss. A lot of them don't really understand how these [coal] leases were acquired . . . . [T]hey're skittish even if somebody even comes from the Tribe itself, mainly because lack of communication in the past, and I would just encourage further communication by all concerned.<sup>35</sup>

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<sup>34</sup> For a good discussion on Navajo Tribal claims to the San Juan Basin and especially the Chaco-Bisti region, see Robert F. Durant, *The Administrative Presidency Revisited: Public Lands, the BLM, and the Reagan Revolution* (Albany: State University of New York Press), 218-222. Durant's book, which focuses on executive power and land management issues in New Mexico, is one of the few studies that address energy development in the Chaco-Bisti region, which he covers in chapter 8. The focus of this chapter—and the book in general—is how the Reagan administration's aggressive resource development agendas often failed because the Administration's interest in promoting resource development was undermined by their policy of cutting government bureaucracies, which left the administration without the personnel to facilitate their goals.

<sup>35</sup> USDI BLM, *Final Bisti Coal Lease Exchange Environmental Assessment*, 4-37.



Corporations, the BLM, and even the tribal government vied for control over the Chaco-Bisti land and resources, relegating the local residents—the people most dependant on their local environments—to the parched and waterless margins of land use decisions.

Local chapter houses opposed the coal mining in the area primarily because it would have directly affected their livelihood: strip mining threatened to render grazing lands useless. The Huerfano Chapter feared that “strip mining [would] only destroy all living plants, ruin the soil, ruin fertilization and whatever little water there is, and it will come to where there would not be any vegetation left for any animals to survive on.”<sup>36</sup> The Littlewater, Nageezi, and Ojo chapters drafted resolutions opposing mining in the Chaco-Bisti area, with “loss of grazing land” listed as their foremost reason for opposition coal strip mining.<sup>37</sup>

Both local Navajo chapter houses and the Navajo tribal government were dubious of reclamation. If post-mining reclamation failed, grazing lands—the base of rural Navajo livelihoods—would vanish into the detritus of eroded soils and piles of broken sandstone. John C. Sledd, an attorney writing on behalf of Navajo individuals and chapter houses in the Chaco-Bisti area, wrote that the BLM’s *Draft San Juan River Regional Coal EIS* was ambiguous as to when grazing might resume on strip-mined lands; some portions of the report, Sledd pointed out, stated that grazing would be “precluded throughout the mine life” and other parts of the report claimed that “mines

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<sup>36</sup> Resolution of Huerfano Chapter submitted to BLM, 8 January 1983, USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letter*, CL-64.

<sup>37</sup> Resolution of Littlewater Chapter submitted to BLM, 5 May 1981, in *Ibid.*, CL-72; and Resolution of Nageezi Chapter submitted to BLM, 13 April 1981, in *Ibid.*, CL-72 and CL-73; and Resolution of Ojo Chapter submitted to BLM, 1 June 1981, in *Ibid.*, CL-74.

may be grazed in the second season of revegetation.”<sup>38</sup> Sledd rebutted the BLM’s equivocating science by writing that no “reclaimed coal surface mine land in the arid west currently supports grazing.”<sup>39</sup> The Navajo tribal government also stated that “there are fundamental uncertainties about the success and time frames of reclamation and revegetation. . . . Examples of Navajo and McKinley mines as successful reclamation sites do not assure that the same can be expected in the San Juan Basin because of different soil, climate, and other conditions.”<sup>40</sup> Navajos took interest in the discourses surrounding surface mining and reclamation: they not only stood to lose grazing lands temporarily during surface mining processes, but they could potentially lose grazing land permanently if reclamation failed. Reclamation science was relatively new and its effectiveness largely unknown. Neither the BLM nor mining corporations convinced Navajos that land reclamation after large-scale coal strip mining could be accomplished.

Corporations heavily contested the methods and feasibility of mining reclamation in the Chaco-Bisti region. The Surface Mining Control and Reclamation Act of 1977 mandated that mining companies restore the contour and vegetation of surface-mined areas. How this could be accomplished in the San Juan Basin, a region marked by aridity and variable soil quality, remained open to debate. In one BLM report, federal land managers assumed that companies could reclaim mined land, but that it would require at least two years of irrigation for plants to regenerate. Gary

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<sup>38</sup> DNA People’s Legal Services, Inc. to BLM, 8 April 1983, Window Rock, Navajo Nation, Arizona, Resolution, in *Ibid.*, CL-169.

<sup>39</sup> DNA People’s Legal Services, Inc. to BLM, 8 April 1983, Window Rock, Navajo Nation, Arizona, Resolution, in *Ibid.*, CL-169.

<sup>40</sup> Comments on BLM’s San Juan Action Plan, submitted by the Navajo Nation to Charles Luscher, State Director, Bureau of Land Management, 6 April 1983, in *Ibid.*, CL-67.

Stucky, Peabody Coal Company's Resource Development Manager, refuted the necessity of irrigation for reclamation, saying that "there is no proven need for irrigation of reclaimed lands in this area and, even if there were, there is no need to make irrigation a requirement as long as successful reclamation is the legal obligation of the mining company."<sup>41</sup> Stuckey's statement to BLM land managers included a technical appendix showing that irrigation did not significantly affect long-term vegetation growth after mining reclamation. This corporate study, however, directly contradicted the Office of Surface Mining—the federal oversight agency for mining reclamation—which viewed the feasibility of reclamation as being dependent upon specific soil and precipitation zones and as being improbable without the use of irrigation.<sup>42</sup> Stuckey, it seems, employed science in an attempt to exonerate his company from having to go through the extra expense and trouble to irrigate reclaimed lands, which would have been considerable in the arid interior of the San Juan Basin.

Mining corporations went beyond disputing their methods and ability for reclaiming mined lands by suggesting that post-mining reclamation could actually improve land. Arch Minerals Corporation/Ark Land Company (owned by Peabody Coal Company executives) countered a BLM's statement that surface mining would result in a permanent loss of soil productivity. Arch Minerals claimed that the PRLAs slated for strip mining covered flat terrain and therefore "reclaimed lands would not significantly

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<sup>41</sup> Peabody Coal Company (Arizona Division) to BLM, 15 July 1981, Flagstaff, Arizona, in USDI BLM, *Final Environmental Assessment for Coal Preference Right Leasing, New Mexico* (Albuquerque: New Mexico District Office, 1981), 58.

<sup>42</sup> United States Department of the Interior, Office of Surface Mining, Reclamation and Enforcement to BLM, 8 April 1983, Denver, Colorado, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letters*, CL-22.

increase soil erosion through water runoff.”<sup>43</sup> Arch Minerals took this logic a step further, stating, “[P]ost-mining reclamation would tend to standardize the soil classifications through retopsoiling, rather than premining localized soil variations. This standardization of soil classification would allow a higher vegetation productivity, resulting in better ground cover, thereby again reducing soil erosion from pre-mining norms.”<sup>44</sup>

Other mining companies, like Utah International and Sunbelt Mining Company, also suggested that post-strip mining reclamation could actually improve land quality. Utah International claimed that “soil/vegetation productivity can be increased through proper reclamation.”<sup>45</sup> Sunbelt mining company echoed this logic by claiming that “mining may retard the effects of sedimentation and erosion now occurring.”<sup>46</sup> This corporate discourse that mining reclamation actually improved land flipped on its head criticism made by Navajos and environmentalists that strip mining destroyed the land.

But in order for the corporate discourse built around reclamation to stand up to the legal requirements for reclaiming land, corporations themselves had to define the parameters of reclamation. The location of Utah International’s Navajo Mine, one of the largest strip mines in the world, sat on the Navajo Reservation just east of the Chaco-Bisti area, and this company had been struggling to reclaim mined land for over a

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<sup>43</sup> Arch Minerals Corporation/Ark Land Company to BLM, 15 July 1981, St. Louis, Missouri, in USDI BLM *Final Environmental Assessment for Coal Preference Right Leasing, New Mexico*, 50.

<sup>44</sup> Arch Minerals Corporation/Ark Land Company to BLM, 15 July 1981, St. Louis, Missouri, in *Ibid.*, 50.

<sup>45</sup> Utah International Inc to BLM, 13 July 1981, San Francisco, California, in *Ibid.*, 37.

<sup>46</sup> Sunbelt Mining Company to BLM, 5 April 1983, Albuquerque, New Mexico, in USDI BLM *Final San Juan Basin Cumulative Overview and Comment Letter*, CL-183. Also see “Statement of Robert A. Jackson, Manager of Corporate Affairs, Sunbelt Mining Company, Inc., in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 400.

decade. In 1979, the mine manager Wes Karna told news agencies that his company was trying to change reclamation laws that it believed should only apply to mining in Eastern regions, like the Appalachian Mountains. Utah International specifically wanted to change reclamation legislation mandating that companies replace topsoil and construct sediment ponds designed to prevent soil erosion from damaging watersheds. Utah Construction claimed that topsoil did not exist on their Navajo Mine lease, and that the Office of Surface Mining was making them spend money replacing “blowsand.” The head of Utah International’s environmental department intended to present results to mine regulators in an effort to “adequately prove topsoil replacement to be unnecessary in this environment.” Utah Construction also claimed that sediment runoff did not exist on the Navajo Mine because the annual precipitation rates were so low. Therefore, the company asserted, no soil retention ponds were necessary.<sup>47</sup>

Utah Construction attempted to rewrite reclamation regulations based on their concern over the cost of reclamation rather than based on their concern over how strip mining impacted the environment. The responsibility to reclaim strip mined land threatened the profitability of mining operations. Mine manager Karna said that topsoil replacement increased the costs of mining reclamation and that the engineering study to construct sediment ponds would cost \$100,000. To limit their financial responsibility for the environmental destruction that Utah Construction caused, it attempted to control environmental knowledge through science.<sup>48</sup> But other soil studies of Utah

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<sup>47</sup> *Teejin baa hane’* vol. 1, no. 6 (November/December 1979), p. 9, copy in UCIC, box 166, folder 3. This document is a corporate newsletter that circulated to employees at Utah International’s Navajo Mine.

<sup>48</sup> *Ibid.*

Construction's lease clearly indicated that topsoil existed, and that these soils were variable and contingent upon micro-topographical conditions. One scientific study classified soils within the Navajo Mine lease into five major soil-type categories. According to this study, the soils found in on the lease were variable and range from barren bedrock to deep, sandy soils. The most common soil found on the lease were in a category that ranged from thin and fine soil on ridges and steep slopes to deep soil that was used primarily for rangeland.<sup>49</sup> And the fact that topsoil in the region did exist and that the area was prone to summer thunderstorm events that exacerbated water erosion would have been common knowledge to both scientists and everyday people familiar with the area.<sup>50</sup> The disparity between the corporate science and discourse built around the natural environment and reclamation compared to common environmental knowledge, led both Navajo livestock grazers and environmental groups to view corporate promises that land could be reclaimed as suspect and dubious.

Environmental groups generally aligned with the Navajo position that strip mining would render grazing lands useless, which put them at odds with BLM and corporate claims that mining reclamation was possible. In its 40-page response to the *Draft San Juan River Regional Coal EIS*, Natural Resource Defense Council said that the

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<sup>49</sup> USDI, Bureau of Reclamation, *Proposed Modifications to the Four Corners Powerplant and Navajo Mine, New Mexico, Final Environmental Impact Statement*, vol. 2, p. 2.90-2.93. For a similar description of soils in the Navajo Lease area, see USDI, Bureau of Reclamation, *Final Environmental Statement, WESCO Gasification Project and Expansion of Navajo Mine by Utah International Inc, San Juan County, New Mexico*, vol. 1, p. 2-49 through 2-51.

<sup>50</sup> For soil erosion, see USDI, Bureau of Reclamation, *Final Environmental Statement, WESCO Gasification Project and Expansion of Navajo Mine by Utah International Inc, San Juan County, New Mexico*, vol. 1, p. 2-35. Here the report states, "The Chaco River and its tributaries [the watershed in which the Navajo Mine is located] originate in typical badlands and carry large quantities of sediment in flash floods." Having lived and worked in the Colorado Plateau area as an archaeologist for nine years, I can personally attest that soil variability and extreme flash-flooding events that take place during summer thundershowers are common throughout the region.

BLM's analysis "is so deficient in this regard [reclamation feasibility] that it suggests that the BLM wishes to presume reclamation will occur so that it may lease coal with a conscience untroubled by facts and proven conclusions."<sup>51</sup> The Natural Resource Defense Council cited court cases and Office of Surface Mining documents that indicated reclamation "of an arid area . . . might not be feasible under present technology" and that a "lack of long-term data [exists] showing the survival of [plant] species without irrigation."<sup>52</sup> John Colburn, chairman of the Rio Grande Chapter of the Sierra Club, expressed a more qualitative incredulity that corporations could reclaim strip mined lands in the San Juan Basin, saying, "In an environment where hundred year old wagon trails are not unusual, where thousand year old corn fields are apparent because of their unnaturalness, where only the hardiest of plants survive from year to year, to believe that the coal companies can restore the land is to believe their biologists can also leap tall buildings with a single bound."<sup>53</sup> While corporations stated that reclamation was not only feasible but that it could actually improve the desert landscape, environmentalists countered that reclamation in the arid San Juan Basin environment was not possible.

Environmental groups' concerns with mining reclamation centered on the loss of Navajo grazing lands and the loss of "naturalness" in the landscape. Archibald McCallum, with the New Mexico Audubon Society, listed energy development impacts

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<sup>51</sup> Natural Resources Defense Council, Inc., to BLM, 7 April 1983, San Francisco, California, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letter*, CL-131.

<sup>52</sup> *Ibid.*

<sup>53</sup> Letter from John Colburn, Chairman of the Rio Grande Chapter of the Sierra Club, to The Honorable John Seiberling, Chairman, Subcommittee on Public Lands, U.S. House of Representatives, 21 May 1983, in US Congress, House, *Federal Coal Leasing Policy; and the Bisti Badlands Wilderness Proposal, Oversight Hearings*, 563.

to local Navajo residents as his top concern. He said, "Grazing lands in this, the most arid coal region in the Nation, will be destroyed and there is as yet no evidence that they can be reclaimed after strip mining."<sup>54</sup> Whereas McCallum emphasized how strip mining would destroy grazing lands, Glowka, with the Sierra Club, made the argument that strip mining would destroy natural aesthetic qualities of the greater Chaco-Bisti region. "Scenic beauty can never be returned and it cannot be reclaimed as required by law," he said.<sup>55</sup>

Local Navajo objections to strip mining principally centered on how reclamation would destroy their grazing lands. Burton Nascal, who represented chapter houses located near where the strip mining would take place, expressed distrust that corporations could reclaim land that they mined: "They tell us when they disrupt our land, they are going to replant it. . . . That cannot be done. When they once [sic] destroy this land, they cannot reclaim this land . . . . When the strip mine go[es] into place, that will put my people in poverty and then the people will suffer."<sup>56</sup> Cecil Werito, Sr., speaking on behalf of another chapter house that would have been affected directly by strip mining, expressed a similar disbelief that the land could be reclaimed after strip mining: "After the mining and stuff like that, the land wouldn't be any good to raise sheep or to grow a garden or anything like that."<sup>57</sup>

Maimie Edway believed that coal strip mining would not only threaten her grazing lands but her whole lifestyle and her attachment to her home. For over forty-

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<sup>54</sup> Arch McCallum, New Mexico Audubon Council, Oral Statement, in *Ibid.*, 67.

<sup>55</sup> Dave Glowka, Rio Grande Chapter of the Sierra Club, in *Ibid.*, 74.

<sup>56</sup> Burton Nascal, Rancher and Representative of the Pueblo Pintado Chapter, Oral Statement, in *Ibid.*, 82.

<sup>57</sup> Cecil Werito, Sr., Representing Naizi Chapter, Oral Statement, in *Ibid.*, 83.



five years Edway made her home in Chaco Canyon, near where strip mining would take place. At a congressional hearing focused on coal mining and wilderness protection in the Chaco-Bisti area, she said that she spoke not just for herself but for her friends, relatives, and children who also lived in the area. She strongly opposed coal strip mining, fearing that corporations were “going to put out [a] machine for the coal and ruin everything what [sic] around us, grasses our lifestyles and everything.” Maimie said that she had sheep, horses, and cows that grazed around her home and that if corporations strip mined the land “the grasses won’t come up the same as they use to.” She viewed her home, her lifestyle, and the grass perfectly fine as they existed: “God has made the grasses perfectly fine, I believe it.” The BLM and corporations wanted to “chase us out” of our land and homes, she said.<sup>58</sup>

The question, in the end, is what group most succeeded in translating their vision of land use into reality in the Chaco-Bisti region: environmentalists, local Navajos opposed to energy development, or corporations? Environmental groups could celebrate the fact that Congress formally designated the Bisti and De-na-zin WSAs as wilderness areas in 1984. But environmental groups failed to get an expanded form of wilderness and also failed to get Ah-shi-pah designated as a wilderness area. Ah-shi-sle-pah, instead, was left as a WSA, leaving it closed to development until Congress made a final decision to either designate it as a wilderness or drop it as WSA. Ah-shi-sle-pah today remains a WSA: it could just as easily become a strip mine as a wilderness area. Environmental groups achieved another victory—albeit one realized almost fifteen years

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<sup>58</sup> Maime Edway, Resident of Chaco Canyon, Oral Statement, Burton Nascal, Rancher and Representative of the Pueblo Pintado Chapter, Oral Statement, in *Ibid.*, 85-86.

later. Under Bill Clinton's Secretary of the Interior Bruce Babbitt, the Omnibus Parks and Public Land Management Act of 1996 was passed; this act expanded the Bisti and De-na-zin wilderness areas to join each other to cover a total area of almost 45,000 acres. This joining of Bisti and De-na-zin—along with other expansions of wilderness boundaries—was something that environmental groups tried to achieve in the early 1980s before the passing of the original San Juan Basin wilderness legislation. The BLM, under Watt's control, strongly opposed expanding or buffering wilderness areas. The Clinton administration and Secretary Babbitt appeared to have been more open to such expansions. Either way, the San Juan Basin was intimately linked to the national political structure.<sup>59</sup>

Navajos, as with environmental groups, achieved mixed success. Depending on what segment of Navajo society you are looking at, the degree of success varies. The tribal government did claim title to land in the Chaco-Bisti region by means of the Navajo-Hopi Relocation Act, and this area included the place where PNM planned to build the New Mexico Generating Station. Their land claims also encompassed coal resources, including the Ah-shi-sle-pah WSA.<sup>60</sup> In 1987 the Navajo Tribe negotiated with PNM, Bechtel Corporation, General Electric, and Combustion Engineering to build a power plant where PNM had hoped to build its New Mexico Generating Station, although these plans collapsed in the early 1990s. The tribe's land claims over the Chaco-Bisti region, however, remained unresolved as late as 1987. And the Navajo

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<sup>59</sup> The San Juan Basin Wilderness Protection Act of 1984, HR 6296, 98<sup>th</sup> Cong., 2<sup>nd</sup> sess. Omnibus Parks and Public Lands Management Act of 1996, Hr 4236, 104<sup>th</sup> Cong., 2<sup>nd</sup> sess.

Nation's ability to dictate resource development even if they came to control this area was limited by the San Juan Basin wilderness bill, which legislated as much about coal development as about wilderness designation in the Chaco-Bisti area. This wilderness act specifically stated that any land in the Chaco-Bisti area that was transferred to the Navajo Tribe would be bound to existing coal leases and that the State of New Mexico would still receive its share of royalty payments as though the land were still under federal control. While it does not seem that Navajo ownership of land in the Chaco-Bisti region would have been able to stop energy development, it does seem that the Navajo tribe would have had some share in the royalty payments as it would have been entitled to the federal government's royalty shares.<sup>61</sup>

Although the tribal government might have been happy to have the potential to get some economic benefit energy development in the Chaco-Bisti region, it is uncertain how the local Navajo population responded. But it is reasonable to believe that even Navajo-directed energy development would have created conflict between local Navajos and their government. This assumption is based on local populations rationales for opposing energy development—which centered on how strip mining was diametrical to their interests in using the land for grazing animals—as well as the factionalizing nature of large-scale energy development that took place on the reservation during the 1970s with coal gasification as we saw in chapter 2.

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<sup>61</sup> USDI BLM, *Proposed Farmington Resource Management Plan, Final Environmental Impact Statement* (Albuquerque: New Mexico District Office, September 1987), 2-2 and 2-3. Andrew Davis, "A Bisti Elegy?: The Future of the San Juan Threatened," in *Bisti*, photographs by David Scheinbaum (Albuquerque: University of New Mexico Press, 1987), 47. For a general discussion on Navajo Tribal claims to the Chaco-Bisti and their attempts to facilitate joint-partnership energy development, see Durant, *The Administrative Presidency Revisited*, 220-221.

The government-corporate bloc held the most power over the lands of the San Juan Basin and therefore it should come as no surprise their vision of land use was most successful. In 1987, the BLM converted the twenty-six PRLAs to leases. However, the BLM reduced the total PRLA area open to strip mining by 6,400—from 22,000 acres to 15,600 acres. But nearly all of the PRLA subtractions came from the 5,356 acres of PRLAs that overlapped with the Ah-shi-sle-pah WSA. If the Ah-shi-sle-pah is designated as a wilderness area, this reduction of strip-minable land will be permanent; if it is dropped from wilderness consideration, the PRLA strip mining targets will be back up to what the BLM and corporations originally planned. And the acreage of PRLAs leased for subsurface mining remained unchanged at 26,000 acres.<sup>62</sup>

Corporations had much else to celebrate during the 1980s. In 1987, the BLM brought seventeen competitive coal leasing tracts, which covered some 60,000 acres, forward for further consideration. These competitive leasing tracts were a mix of the BLM's alternatives for competitive coal leasing that they originally outlined in their 1984 *San Juan River Regional Coal Environmental Impact Statement*. Therefore, much the BLM's original analysis as to the environmental and social impacts was no longer relevant because it did not match their current plans for coal leasing. The BLM skirted this issue by saying that their planning for competitive leasing "is an administrative procedure and will not directly result in actual [environmental] impacts" and that

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<sup>62</sup> USDI BLM, *Record of Decision: Final San Juan River Regional Coal Environmental Impact Statement* (Santa Fe: New Mexico State Office, October 1987), 1, 2, and 9. For original acreage proposed for PRLA leasing, see USDI BLM, *Draft Environmental Assessment for Coal Preference Right Leasing*, 1-1 and 1-2.

“analysis of impacts from mining occurs later during the pre-lease activity planning and post-lease mine planning stages.”<sup>63</sup>

This BLM rationale startlingly echoed the corporate rationale that Robert Jackson employed in 1984 to attack the original San Juan Basin coal development EIS, which did attempt to address environmental and social impacts from leasing. Jackson argued: “[T]he DEIS [draft environmental impact statement] attempts to assess specific impacts on proposed lease tracts. It should be noted that leasing does not allow mining to take place. Hence, leasing, which has few, if any, specific environmental impacts, should be the focus of the EIS. Specific [leasing] tract effects can be realistically assessed only when those tracts are included in a mine plan proposal that is part of a mine permit application. Only at this stage would BLM be able to realistically assess impacts.”<sup>64</sup>

Undoubtedly, this BLM and corporate rationale had practicality in mind. By delaying EIS studies until a mining plan was in hand, the EIS would more directly apply to a definitive area slated for mining rather than the more generalized tract of land proposed for coal leasing. But by eliminating discussion of potential environmental impacts that would result from leasing land for coal mining, corporations would be that much closer to actually mining—and could therefore narrow the debate to how mining should proceed and not whether or not mining should occur in the first place—while public input would be that much further removed from resource development on public lands during crucial early stages of the planning process. As discussed earlier in chapter 3,

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<sup>63</sup> USDI BLM, *Proposed Farmington Resource Management Plan*, 2-7.

<sup>64</sup> Letter from Robert Jackson, Sunbelt Mining Company, to BLM, in USDI BLM, *Final San Juan Basin Cumulative Overview and Comment Letters*, CL-183.

environmental groups criticized the BLM for circumventing public participation at these early planning stages for large-scale resource development.

Corporations also stood to benefit from a large-scale land exchange that the BLM hoped to facilitate during the mid-1980s—a couple years after Secretary Watt had resigned due to his being a liability during the election campaigns for Reagan’s second term. The BLM designated the entire southern half of the San Juan Basin—totaling almost 325,000 acres—for land trades with private parties, the Navajo tribal government, and the State of New Mexico. Under this plan, the BLM wanted to retain only the coal-belt within the Chaco-Bisti area, which it had leased to corporations through PRLAs, and the newly created wilderness areas. The BLM said that after the PRLAs in the coal-belt had been mined it would consider disposing of the land. There was, however, a caveat to this plan for land disposal within the San Juan Basin: the federal government would retain mineral ownership of any land that it did not retain.

It is hard to discern who would have most benefitted from this land trade without further study. But given the more lax environmental regulations of state and tribal governments—not to mention private land holdings—it is difficult not to see this plan as the Reagan administration’s fulfilled promise to the Sagebrush Rebels, who called for the federal government to dispose of its lands to local governments who could more easily facilitate resource development. The area that the BLM planned to dispose of happened to include tens-of-thousands of acreage that coal mining companies already active in the region, such as Santa Fe Industries and Pittsburg and Midway Mining Corporation, wanted to lease from the federal government. And this much

larger plan to dispose of land, based on the BLM's 1987 Resource Management Plan, seems to have gained far less attention than the planned coal development of the San Juan Basin in the early 1980s. Various factors might be attributed to this: the absence of Secretary Watt who served as a catalyst for environmental activism; the lack of environmentalist and indigenous activism that marked the 1970s and that built a somewhat powerful coalition during the early 1980s to oppose coal development; or the more low-profile nature of the BLM's land management and resource development plans during this period.<sup>65</sup>

Beyond the actual outcome of the Chaco-Bisti case study of coal development, however, this case study is interested in how different groups developed different rationales for resource development and environmental protection within a single place. Environmental groups, as I have shown in this chapter, stressed aesthetic, scientific, cultural, and wilderness characteristics of the Chaco-Bisti area in an attempt to stop coal mining. Environmental groups particularly emphasized wilderness designation as a means to stop strip mining. Navajos opposed to coal mining argued that their ancestral ties to the land gave them preeminent rights to the land. While both local Navajos and the tribal government shared this rationale, the local communities also emphasized their life-dependence upon grazing lands. Local Navajos opposed to coal development emphasized how coal energy development threatened their grazing economy, and they did not believe that the land could be reclaimed.

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<sup>65</sup> USDI BLM, *Proposed Farmington Resource Management Plan*, 2-7. For a sampling of the various interests involved and their different stances on the BLM's proposed land exchange—and other issues, including continued plans for coal mining—see chapter 4 of this document.

Environmentalists also did not think that mining reclamation would be successful in the San Juan Basin. Corporations developed their own rationales regarding wilderness areas and mining reclamation that mirrored their interests in coal resource development. By looking at how each of these groups came together in the Chaco-Bisti region—and the greater San Juan Basin—we ultimately come to see how differing rationales were refracted through a single place in ways that largely mirrored each groups' particular interests in the land and its resources.



## EPILOGUE

As I sit in Arizona writing this, my computer is tapping into the southwestern electricity grid. The energy that powers my laptop likely comes from the generators of the nearby Cholla power plant, which burns coal from the San Juan Basin. It is difficult to perceive this energy because it is so abstract: it cannot be held or touched. Whereas I can flip my computer upside down around to see the “Made in China” label, the electricity that powers my computer comes with no such marker that indicates the place from where it comes to me. My own consumption of energy is completely divorced from the place where the energy is mined and burned. And the environmental and social consequences of my energy consumption—as well as the history behind this energy consumption—are as abstract, invisible, and hidden as energy itself. But by looking at the heart of energy hinterland regions, such as the San Juan Basin, we can uncover the history of energy development and restore how energy consumption is tied to energy development. And, in doing so, we come to better understand the environmental consequences and the social conflict that are linked to our use of energy.

This deeper understanding of the environmental and social effects caused by energy development is best facilitated through close study of both the places and people that sit at the center of energy development. Tracing the history of the San Juan Basin brings to light how energy development disrupted the environment of one particular hinterland region. Mining companies disassembled the land overlying coal seams because there was profit in unearthing this coal that fueled the post-World War II energy demands of the Southwestern region—from Texas to California. Utility

companies exploited the areas near coal resources as well as the remoteness of this place to construct power plants. Coal mining in these regions destroyed the land surface and the vegetation. The power plants spit gases and particulate matter into the air. And the power plants, located in the dry and remote reaches of the desert, consumed large quantities of scarce water resources while also contaminating water with ash and toxic chemicals. These environmental disruptions were contested by multiple groups who either emphasized the benefits or the drawbacks of energy development. But energy development has also changed the San Juan Basin environment in other ways: it has created legal borders, in the form of leases, around areas slated for coal-mining, and coal energy-development was a central reason that areas in the San Juan Basin were designated as wilderness.

Through close examination of corporations, we have seen how representatives of these organizations developed different rationales to legitimize their industry while also maintaining a singular and continuous narrative thread that was rooted in economic progress. With the advancing environmental movement in the 1960s and early 1970s, energy companies responded by claiming that their industries were capable of producing more energy while also minimizing their impact to the environment. When mining and utility companies did acknowledge their role in damaging the environment, they promised that advances in technology and science would counterbalance this environmental destruction—and in some cases, as with mining reclamation, even suggested that they could improve the natural environment. Energy companies acted opportunistically with the energy crises of the 1970s—which they seized as a chance to

expand their industries—by promoting increased coal development as the solution for shortages in international oil supplies. And as conflict over energy development in the San Juan Basin region climaxed during the mid 1970s and again in early 1980s, energy companies maintained that intensive energy development could coexist with environmental protection. With the Reagan administration and the Sagebrush Rebellion, coal-energy companies active in the San Juan Basin became particularly aggressive in asserting their rights to develop public land and resources, but selectively cited legislation, such as the Mineral Leasing Act of 1920, that bolstered their claim to land, rather than legislation, such as the Surface Mining and Reclamation Act of 1977, that regulated and hampered their interests in coal development. As the energy shortages of the 1970s became less pronounced in the early 1980s, mining companies focused on the issue of leasing coal reserves rather than fulfilling immanent market needs with the circular logic that increased leasing would lead to increased coal development and larger energy markets. Above all, though, mining and utility companies articulated a continuous narrative that conflated energy development with economic progress from the early 1960s through the 1980s.

Navajos who opposed energy development—primarily Navajo activists and local Navajo communities—challenged the corporate discourse that equated energy development with economic progress. Navajo resistance to energy development became particularly pronounced with coal gasification projects proposed for the Navajo reservation during the mid-1970s. Navajo opponents to energy development viewed this as another form of American’s colonizing their ancestral lands and viewed energy

development as a threat to their grazing economies. Both activists and local communities distrusted the governmental and corporate science that claimed energy development could be done in an environmentally sound manner, particularly the corporate assertion that re-vegetation methods could actually improve their grazing lands. Activists especially emphasized how newly enacted environmental laws made intensive energy development inconsistent with environmental protection. Energy development also created—or, at least, exasperated—divisions in Navajo society: some tribal leaders, such as Peter MacDonald and many of the tribal council members, supported energy development as a means for economic development on the reservation while Navajo activists and local communities resisted energy development based on ideological and economic reasons.

Environmental groups became very active in opposing energy development in the San Juan Basin during the early 1980s, making their earlier efforts in the region appear effete in comparison. During this period, environmental groups especially concentrated their efforts on the Chaco-Bisti region where the BLM had designated wilderness study areas. Environmental groups deployed various tactics for opposing energy development and tried to align their interests with local Navajo communities and organizations who also opposed energy development. Environmental groups challenged the legitimacy of the federal coal leasing program, challenged the market need for increased energy development, and argued that energy development would not result in economic prosperity for the region. Environmental groups also focused on protecting and expanding wilderness study areas—by promoting scientific, aesthetic,

and recreational values—and they used wilderness as a tool for contesting energy development. However, their emphasis on wilderness study areas left much of the San Juan Basin outside of their close purview and therefore vulnerable to energy development.

From this study we clearly see how energy development took root in the San Juan Basin and changed its environment—the land, the air, and the water. But we also see how various actors came to understand those changes—and understand the legislation that regulated such large-scale environmental disruption through a prism that refracted their own particular interests. Environmental groups and Navajos opposed to energy development, for example, understood strip mining as environmental destruction while mining companies believed they could return the land to better conditions than before they mined. Each assertion reflects each group's particular interests in energy development.

Energy development within the San Juan Basin, of course, was even more intensive, complex, and multi-dimensional than I have described in this thesis. Coal mining companies developed more coal strip mines than I have looked at—such as the Pittsburg and Midway Coal Company's McKinley Mine and Peabody Coal Company's Lee Ranch Mine. Public Service Company of New Mexico and Tucson Gas and Electric Company constructed the San Juan Power Plant, located only eight miles from the Four Corners Power Plant, in the early 1970s. This plant was expanded even as Indian activists helped defeat coal gasification plants in the region. And the Coronado and nearby Springerville power plants, which burned coal mined from the San Juan Basin,

were constructed in eastern Arizona during the early- and mid- 1980s as environmentalists focused their energy on stopping the New Mexico Generating Station proposed for the Chaco-Bisti region.<sup>1</sup>

Other types of energy development also took root and quickly expanded in the San Juan Basin during the period that I have looked at. A post-World War II demand for uranium, spurred by the Atomic Energy Act of 1946, which created the Atomic Energy Commission (AEC), also initiated a grab for energy resources in the San Juan Basin. The Grants Mineral Belt, stretching from roughly the Laguna Reservation northwest to Church Rock, contains an estimated 80,000 tons of uranium—about half the nation’s uranium.<sup>2</sup> The first uranium frenzy in the San Juan Basin spiked when the AEC offered to buy uranium at fixed prices and offered prospecting incentives and bonuses, which created a uranium boom in the Colorado Plateau region.<sup>3</sup> The Anaconda Copper Mining Company, under contract with the AEC, processed most of the uranium mined in the region at its mill located near Gallup. The AEC phased out its purchasing of uranium in the early 1960s, causing the uranium mining industry to both consolidate and decline throughout the 1960s. Uranium mining by major energy corporations—such as Mobil, Exxon, and Conoco—intensified in the early 1970s, particularly after the Arab oil embargo in 1973, causing both the nation and energy corporations to seek “alternative” fuel sources. Uranium mining in the San Juan Basin peaked in 1979, just two years

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<sup>1</sup> For information pertaining to the development and expansion of the San Juan Power Plant, see, USDI, Bureau of Reclamation, *Proposed Expansion of the San Juan Powerplant, New Mexico, Draft Environmental Statement* (Bureau of Reclamation, 1976), especially 1-1 through 1-6.

<sup>2</sup> Larsen, “The Energy Economy of Northwestern New Mexico,” 84.

<sup>3</sup> *Ibid*, 82; Gomez, *Quest for the Golden Circle*, 20-21.

before the industry collapsed in 1981.<sup>4</sup> And today there is revived interest in uranium mining.<sup>5</sup>

Energy companies have also extracted oil but especially natural gas from the San Juan Basin. Natural gas development intensified in the 1950s when El Paso Natural Gas Company constructed a pipeline from the San Juan Basin to southern California. More San Juan Basin gas flowed to California energy companies after Pacific Gas purchased natural gas from El Paso for distributing to San Francisco markets. And still more natural gas flowed out of the San Juan Basin to population centers when Pacific Northwest Pipeline Corporation built a 1400-mile long natural gas pipeline stretching to Idaho, Oregon, and Washington, which also occurred in the 1950s. Natural gas development boomed in the late 1970s and early 1980s and again during the George W. Bush Administration—which, like the Reagan administration, greatly increased corporate access to public lands and energy resources. Today, the San Juan Basin produces more natural gas than any other geographic region in the nation.<sup>6</sup>

These different energy industries have unleashed their own forms of environmental destruction. Uranium development has scarred the land and left tailing

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<sup>4</sup> Larsen, "The Energy Economy of Northwestern New Mexico," 122 and 167.

<sup>5</sup> Caitlin Sislin, "Good News and Bad News for New Mexico's Navajo Communities," *High Country News*, 22 November 2010, [www. http://www.hcn.org/greenjustice/blog/good-news-and-bad-news-for-new-mexico2019s-navajo-communities](http://www.hcn.org/greenjustice/blog/good-news-and-bad-news-for-new-mexico2019s-navajo-communities). Sislin writes: ". . . the U.S. Supreme Court declined to review the 10<sup>th</sup> Circuit's decision earlier this year [2010] to allow uranium mining at the site of the largest nuclear spill in U.S. history on Navajo land. Because of the high court's decision, Hydro Resources Inc. may now move forward with its plan to leach mine uranium at Church Rock, the site of an aquifer that provides precious drinking water to 15,000 Navajo people." Also see Laura Paskus, "Navajo Windfall," *High Country News*, 4 September 2006, <http://www.hcn.org/issues/329/16520>.

<sup>6</sup> Williams, *Energy and the Making of Modern California*, 275-276; Gomez, *Quest for the Golden Circle*, 36-41; 58-61; Willis, "A Socio Economic History of the Oil and Gas Industry of the San Juan Basin, 1890-1950," 66-77.

piles throughout the region, such as the ones found in Shiprock and the Acoma Reservation. The San Juan Basin is also the location of the largest radioactive spill in the nation. In 1979, the dam of United Nuclear Corporation's tailings pond broke and released some 100 million gallons of radioactive sludge into the Rio Puerco. This event, known as the Church Rock uranium spill, is among the worst unplanned releases of radioactive material into the environment. On top of the Church Rock catastrophe, United Nuclear Corporation's and Kerr McGee's general mining activities in the Church Rock area contributed to long-term water contamination. And although new subsurface leaching techniques for uranium mining lessen miners' exposure to radioactive material, this technique threatens to contaminate subsurface groundwater.<sup>7</sup>

Another form of energy development, natural gas drilling, primarily changed the landscape by dissecting the area with a spider-web of roads leading to drill pads. However, the technique of fracking has also created environmental problems. This is a process in which energy companies inject fluids and explosive materials into the ground to break up geological structures, which allows natural gas to flow through the rocks and to be eventually extracted. One dramatic example of this occurred in the northeastern portion of the San Juan Basin in the 1967 when El Paso Natural Gas Company together with the Atomic Energy Commission detonated a nuclear device

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<sup>7</sup> For a general overview of how uranium mining impacts the environment, see Larson, "The Energy Economy of Northwestern New Mexico," 176-184. For the Church Rock tailings spill, see Larson, "The Energy Economy of Northwestern New Mexico," 155-164; and Ambler, *Breaking the Iron Bonds*, 163. For how uranium mining has affected the people and environment on the Navajo Reservation see David R. Brugge, Timothy Benally, and Esther Yazzie-Lewis, eds., *The Navajo People and Uranium Mining* (Albuquerque: University of New Mexico Press, 2006); many chapters in this book are oral interviews. For a brief description of leach mining processes and environmental and human health concerns over this, see Eric Jantz, "What Nuclear Boosters Don't Tell You," *High Country News*, 4 December, 2009, <http://www.hcn.org/blogs/range/what-the-nuclear-boosters-dont-tell-you>.



below the surface of the earth in an attempt to frack (short for fracturing) the geological structure and release natural gas. Although nuclear explosives are not used, fracking intensified with coal-bed methane gas extraction during the 1990s and remains a fixture of the natural gas industry today. And many people are concerned about the possibility of underground water contamination from this process.<sup>8</sup>

Coal mining and coal-fired power plants in the San Juan Basin remain both active and controversial. Although Navajo tribal government's and corporations' plans for building a power plant in the Chaco Bisti area died during the early 1990s (which was a reincarnated version of PNM's New Mexico Generating Station), Sithe Global Power partnered with the Navajo Nation to build the Desert Rock Plant in 2003. This plant, like the Four Corners Power Plant, would burn coal from the Navajo Mine, which is today owned by BHP Billington, the world's largest mining corporation. The proposed Desert Rock Power Plant, like earlier forms of energy development, is exacerbating factionalizing among Navajos who favor the plant versus those opposed to it. The Burnham Chapter and three other chapters passed resolutions opposed to the power plant. The Nenahnezad Chapter passed a resolution in support of the power plant but with a qualifying statement that read: "This chapter understands that this is going to

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<sup>8</sup> For a brief description of the nuclear detonation to open up subsurface gas reserves, called Operation Gasbuggy, see Gomez, *Quest for the Golden Circle*, 64, 158, and 163. For a more in-depth discussion of Operation Gasbuggy, see Ferenc Szasz, *Larger than life: New Mexico in the Twentieth Century* (Albuquerque: University of New Mexico Press, 2006), Chapter 6. For information pertaining to natural gas fracking see Rachel Waldholz, "Frackin' Fears," *High Country News* 20 January 2010, <http://www.hcn.org/blogs/goat/frackin-fears>. Also see Laura Paskus, "Conscientious Objectors: Public Employees and Their Allies on the Outside Fight Against Bush's War on Science," *High Country News*, 20 December 2004, <http://www.hcn.org/issues/289/15179> and Sarah Gilman, "Frack 2, Scene 1," *High Country News*, 23 November 2009, <http://www.hcn.org/issues/41.20/frack-2-scene-1>. *High Country News* has many other informative articles dealing with natural gas drilling and fracking.

happen no matter what the people say.” Both Navajo and non-Navajo environmental groups, like Dooda Desert Rock, Dine Citizens Against Ruining Our Environment (Dine), and San Juan Citizens Alliance, are actively opposing the plant and building alliances with local communities members who also oppose the power plant. Proponents’ and opponents’ visions of the power plant remain as polarized as they were in the 1970s and 1980s. Steven Begay, the general manager of Dine Power Authority—the Navajo partner of the Desert Rock Power plant—promotes the plant as economic salvation for the Navajo people. But Sarah White, the president of Dooda Desert Rock, believes the power plant will only result in more industrial pollution. She said that Desert Rock offers only empty promises of progress—promises that the companies that operate the Four Corners Power Plant and the San Juan Power Plants have already made and have already broken.<sup>9</sup>

The Desert Rock power plant is proposed even while the past environmental problems from existing power plants continue to haunt the present. The Four Corners and its neighboring San Juan Power Plant—as well as the mines that fuel the plants—rank among the nation’s top sources of pollution. And although air-pollution technology has reduced particulate emissions from the Four Corners Plant and the San Juan Plant, this solution for air pollution has created another problem—the problem of how best to deal with solid ash waste. Instead of ash particulates going into the air, pollution-control devices capture particulate matter which is then stored in open pits or buried in

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<sup>9</sup> Laura Paskus, “The Life and Death of Desert Rock,” *High Country News*. 16 August 2010, <http://www.hcn.org/articles/the-life-and-death-of-desert-rock>. Tony Barboza, “Pollution for Jobs: a Fair Trade?” *High Country News*, 5 September 2005, <http://www.hcn.org/issues/305/15750>.

the cut of the surface mines adjacent to these power plants. This ash, however, contains toxins that could find their way into ground water. According to an Environmental Protection Agency report, the Navajo Mine and San Juan Mine, operated by BHP Billington to fuel the Four Corners and San Juan Power Plants, released more toxins—primarily in the form of ash waste— into the environment than any other coal mine in the nation. However, although the Environmental Protection Agency (EPA) has acknowledged that coal ash could be toxic, the agency has so far refused to classify waste ash as a toxic material, leaving regulations for handling and disposing of waste ash somewhat lax. Despite the EPA’s unclear stance on whether or not ash waste should be classified as toxic, community members living near the San Juan Power Plant and the Four Corners Power Plant believe that they have been sickened by drinking water that has been contaminated from ash waste, while corporations have downplayed the risk that coal burning and ash waste pose to the environment and human health.<sup>10</sup>

It seems highly improbable that we will break free from fossil fuel and nuclear fuels anytime in the near future considering how completely dependent our daily lives have become on these energy sources. And as long as we are dependent upon this energy, the fate of the San Juan Basin’s environment and people will be intimately linked to energy development. No matter what direction the energy future turns—whether nuclear, coal, or natural gas—the San Juan Basin will be more intensively

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<sup>10</sup> Mike Taugher, “2 N.M. Power Plants on List for Mercury,” *Albuquerque Journal*, 20 December 1999, A1. Associated Press, “Two N.M. Mines Top ‘98 Toxin List,” *Albuquerque Journal*, 23 May 2000, C3. Tania Soussan, “N.M.’s Toxic Releases High,” *Albuquerque Journal*, 4 June 2000, B1. Tony Barboza, “Pollution for Jobs: a Fair Trade?” *High Country News*, 5 September 2005.

developed and its people will bear the environmental and social costs of that development directly. And this is true for the larger Colorado Plateau which holds other energy resource basins—such as the Uinta Basin and the Piceance Basin—that contain much of the region’s uranium, oil shale, coal, and natural gas resources. Beyond the San Juan Basin and the greater Colorado Plateau, the Rocky Mountain west will likely see continued and intensified energy development; some have called this region America’s “Middle East.” But, of course, energy development and its impact on the people and environment is not something that has only affected the Rocky Mountain West. Energy development is affecting nearly every region where energy resources occur. And as surely as energy development will intensify, conflict over this energy development will also intensify.

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