

# THE BLACK DIAMOND TRAIL

## Interpretive Plan



Old Powder House, Kleenburn (Carneyville), by Mike Kuzara



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Dietz No. 4, courtesy of Sheridan County Museum



Acme Coal Camp, courtesy of Sheridan County Fulmer Library

## INTRODUCTION TO THE PROJECT

A division of the State Historic Preservation Office (SHPO)'s Wyoming Monuments and Markers Program, the Wyoming Historic Mine Trail and Byway Program was established by the Wyoming legislature in 2005. Its mission is to identify and designate historic mine locations and trails within the state. Completed in 2009, the program's first trail, *Gold Flakes to Yellowcake Historic Mine Trail*, interprets the gold mines and uranium mines in the Sweetwater Mining District and the Gas Hills Uranium Mining District. The program is currently developing the second byway project, the *Black Gold Byway*, which interprets the Salt Creek Oilfield, north of Casper. A third Historic Mine Trail and Byway was nominated by the Sheridan Community Land Trust (SCLT) for the coal-mining district north of Sheridan. This document is an Interpretive Plan for the project. It is the first step in identifying the site's rich history and defining the *Black Diamond Trail*.



Interior of a Sheridan-area mine, courtesy of Sheridan County Museum

The new byway will reinforce the Historic Mine Trail and Byway Program objectives:

- 1) to provide a precise history of mineral development in Wyoming;
- 2) to interpret the role of mining and minerals in the development of Wyoming's economy;
- 3) to identify and describe Wyoming's mining and mineral development heritage.

By creating public awareness of this significant site and by placing its history in value through interpretation, the exhibit developers further hope to encourage conservation of the site and related artifacts.



Juniper at Acme mine, whose columnar shape signals the presence of an underground fire, by Jack Smith



Monarch water tower with Big Horn Mountains, by Dave Paullin

## INTERPRETIVE SIGNIFICANCE

Stretching for about 15 miles north of Sheridan and including a few locations southwest of the city, the Sheridan County mining districts are integral to the settlement and development of the city and county of Sheridan, and even to the state of Wyoming. Commercial mining began here in the 1890s with the birth of the state. This industry grew up with the city and state and until recently has been a major economic engine for the region. Not only did it bring wealth to mine owners, but it also sustained a large workforce. Outpacing Sheridan population-wise, the mining district north of town supported an estimated 10,000 people by 1908. Taking their paychecks to Sheridan via the interurban railroad, miners and their families depended on this city for products, services (including high school education), and entertainment not available in the company mining camps and towns. Although the peak of activity was the 1910s and early 1920s, commercial mining took place here from the 1890s through the 1990s, and mining communities existed here until 1977.



Carneyville, 1904, courtesy of Sheridan County Museum

A study of the mining districts includes a geologic understanding of the region and the surrounding Powder River Basin, a technical analysis of underground mining (including its hazards, mechanization, and eventual surrender to surface mining), an understanding of the intertwined economic and energy histories of the U.S. and Wyoming (including railroad history), and a social and cultural survey of Sheridan and its surroundings.



Residents of a Sheridan-area mining town, courtesy of Sheridan County Museum

Culturally, the mining districts are particularly significant in that they attracted dozens of nationalities to Sheridan whose influence remains today. In fact, this story is a microcosm of the American immigration experience. The most prevalent of the immigrant groups in the Sheridan coalfields was the Polish, whose names fill the Sheridan telephone book and whose culinary and musical heritage can still be experienced in the city.



(Clockwise from upper left) Darlene and companion; Alger-Kleenburn depot; Alice's brother; Mike R. Kuzara and Sturtz family; Alice; courtesy of Sheridan County Museum and Andrea Kuzara Knutson

Although most of the physical evidence of the six or more bustling mining towns north of Sheridan (including Acme, Carneyville (later Kleenburn), Kooi, Monarch, and two Dietz locations) has been removed, a few artifacts remain to give visitors a hint of the communities that filled these valleys: cemeteries, water towers, a power plant, a mule barn, a stone church, mine entrances, countless foundations, and a suspension bridge. Evidence of the mines can also be seen from the air where subsidence has pockmarked the landscape and coal fires continue to smolder.



Aerial view of the Carney mine showing subsidence (now reclaimed), by Mike Kuzara

This history is very much alive today in the collective memory of the community. It touches the lives of many Sheridan residents, who descended from these pioneer miners. Their memories and handed-down stories are being recorded by the Sheridan Community Land Trust and the Sheridan County Fulmer Library for posterity. These and other local resources have influenced the development and recommendations of this Interpretive Plan.



Residents of Monarch after a flood; Monarch Coal car; courtesy of Sheridan County Museum

## **PROJECT GOAL**

The goal of this project is to develop an historic mine byway that interprets the history and defines the heritage of the Sheridan County mining districts through a variety of media. These media are intended to engender public understanding, appreciation, and stewardship of this cultural legacy.



Acme suspension bridge with Dave Paullin, David Paullin, Stephanie Lowe, and Patrick McMillan, by TMDA

## **INTENT OF THE INTERPRETIVE PLAN**

The goal of this Interpretive Plan is to guide the development of signs, exhibits, and other media. To accomplish this, the plan:

- Synthesizes available visitor information to understand the project's audience
- Defines learning, behavioral, and emotional objectives for the media and exhibit components
- Establishes an interpretive theme for the project
- Develops storylines
- Identifies landscape features for interpretation
- Defines a driving route that ties together these features in a cohesive experience
- Outlines other media for further development and interpretation of the byway.

## **METHODOLOGY AND DEVELOPMENT PROCESS**

The interpretation developed here results from a combination of meetings, conversations, field research, and bibliographic and archival research. In particular, these include a series of meetings among members of the State Historic Preservation Office, Sheridan Community Land Trust (SCLT), Sheridan County Museum, Sheridan County Fulmer Library Wyoming Room, other interested parties in the region, and the selected exhibit developer (Toxey/McMillan Design Associates—TMDA). In addition, representatives from these groups (Dave and David Paullin, Stephanie Lowe, Judy Slack, Colin Betzler, Nathan Doerr, Jack Smith, Laura Nowlin, and Ashley Rooney) have led TMDA on three field trips through the mining district north of Sheridan. The Sheridan County Museum also made its exhibits and related photographic archives available to this project. Also of great significance, the Sheridan County Fulmer Library Wyoming Room has made its extensive photographic archives available to the project as well as related books, newspaper clipping files, and its research staff. For further development of this project, the library's expanding oral history program along with that of the SCLT will also be of considerable use. A list of bibliographic sources consulted can be found at the end of this document.

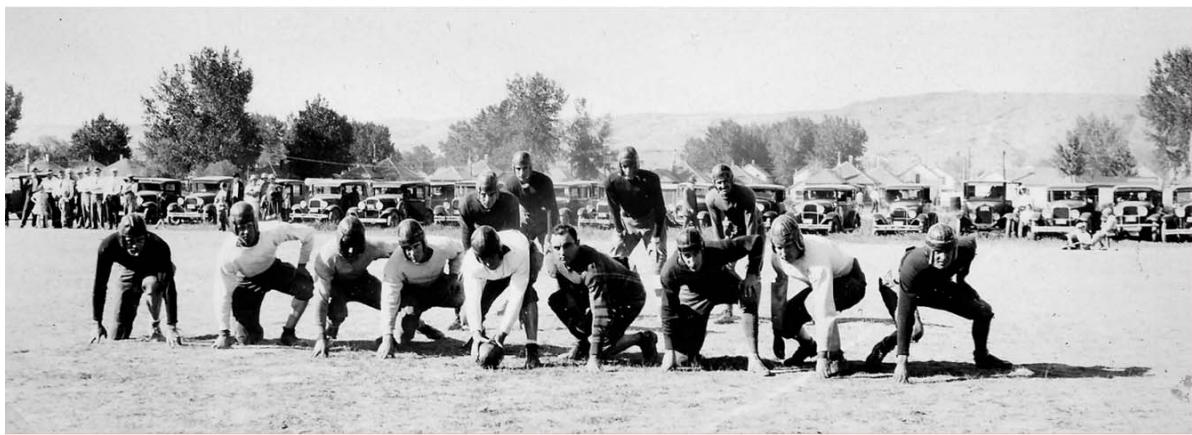


Old bridge over Tongue River, Monarch, 2010, by Dave Paullin

## AUDIENCE PROFILE

The interpretive elements for the byway project may include museum exhibits, websites, and other forms not related to driving or walking along the trail; however, the main proposed venue for interpretation is large panels and related media (brochures, Podcasts, radio) that will mark the trail and provide interpretive experiences along it. Sheridan residents, including schoolchildren, and the traveling public along Interstate-90 are therefore the main anticipated audience. Travelers include Wyomingites, Montanans (this site being located only a few miles south of the Montana border), and long-distance travelers (this being a frequented path to/from Yellowstone National Park for Easterners and Midwesterners).

SHPO plans to market the byway through the Wyoming Office of Tourism (WOT). This agency's 2010 statewide Visitor Profile Reports show small families or groups of adults as being the greatest sector of visitors to the state: adults aged ca. 46 years (65.4% married, 94.5% having some college or tech school training or more extensive education). The average traveling party size of 2.7 was primarily composed of all adults. The average household income (which shows an increase 3 years in a row) was \$79,578. Approximately 76% of the visitors in this survey used the Internet to plan or source information for their trips to Wyoming. We can therefore assume that most visitors to this site will be educated and computer-literate. Providing a technical interface for exhibits, therefore, would not be inappropriate, and giving the trail a presence online would reach a large potential audience. Development of high-tech exhibits would also be suitable for this profile.



Mining camp football team, courtesy of Sheridan County Museum

Of the visitors who came to Wyoming, 93% drove (6% of the 93% drove RVs). Having their own mode of transportation provides visitors with a flexibility to visit a variety of sites including initially unplanned destinations in the State. In addition, 89% came to Wyoming

specifically for leisure. While the top 4 trip destinations include the famous national park sites (1. Yellowstone, 2. Jackson Hole, 3. Grand Teton, and 4. Cheyenne), Sheridan ranked as 9<sup>th</sup> in trip destinations. In fact, in 2010 16% of Wyoming tourists visited the Sheridan Welcome Center and Sheridan (this is more than double the 2009 data of 7%).

The 2010 Visitor Profile Report further reveals that the most significant trip motivators were (in the order of importance): visiting state and national parks, scenic drives, wildlife watching, camping, hiking or backpacking, visiting historical sites, visiting hot springs, fishing, shopping, attending a rodeo, snow skiing or snowboarding, visiting museums, bird watching, sightseeing tours, snowmobiling, and attending a festival or fair. The Black Diamond Trail will provide opportunities for many of these activities: scenic drives, hiking or backpacking, wildlife watching, visiting historical sites, and visiting museums.



Acme water tower and power plant, 2007, by Andrea Kuzara Knutson

While the above study results provide data for all of Wyoming. A more specific and in-depth study done by Randall Travel Marketing provides specific data on visitors who visited 4 welcome centers in Wyoming. One of these four was the Sheridan Information Center in Sheridan, Wyoming. The data here can pinpoint more specifically the visitors who come to/through Sheridan. The study examined visitors who came through from June through October 2010.

According to the 2010 Visitor Center Study, the basic demographics of those visiting specifically Sheridan are:

1. 81% of those visiting Sheridan were adults without children. Therefore, the sites attract more adult travelers than those with young children.
2. 79% are married and their average age is 53.7 years of age. Consequently, the largest age group is from 49–66 years of age. This Baby Boomer group comprises 54% of the visitors who come through Wyoming. The second largest group representing 25% of the visitors are the Generation X (28–48 year olds).
3. 89% have completed at least some college. Of this 89%, 36% are college graduates and 30% have post graduate degrees.
4. 26% of the visitors (the largest group) have a household income of \$50,000–75,000.

To summarize, this study reports that, “Those who stop at the Wyoming Welcome Centers tend to be Baby Boomers and Generation X, are educated, and are in the middle and higher income brackets.”

While the basic demographics provide a profile of those who visit the area, the following data examines the visit itself: the why’s, how’s, and where’s. The surveys shows that specifically for Sheridan:

1. 90% came for leisure
2. 44% said this was their first visit to the Sheridan Information Center and Sheridan
3. 93% stayed overnight. Of this 93%, 63% stayed in a hotel/motel/resort and 30% in a RV/campground
4. 89% drove their own vehicles to Sheridan. Of this 89%, 14% drove RVs. The increased percentages of those who drove into the state versus flying are reflective of the current economic downturn where visitors are more frugal in their spending on leisure vacations.
5. 70% stopped at the Sheridan Information Center and learned about the area as a result of a sign on the interstate highway. As the Randall Travel Marketing study notes: “Clearly, good signage and reference to or recommendation of these centers in the state travel guide and website are important.”
6. The visit to the welcome center resulted in changes in the visitors’ itineraries. As a direct result of the information obtained from the Sheridan Information Center: 1) 57% chose a scenic drive, 2) 47% visited a town or area, and 3) 46% visited an attraction, museum, or historic site. The above 3 activities are the top new activities reported after visiting the Center.

7. While in Sheridan, visitors engaged in the following top 10 activities (these are listed in order of percentage): 1) taking a scenic drive (89%), 2) dining out (74%), 3) wildlife viewing (72%), 4) visiting a national park (69%), 5) shopping (53%), 6) visiting a historic site (52%), 7) visiting a state park (39%), 8) visiting a museum (37%), 9) hiking/backpacking (37%), and 10) visiting hot springs (35%).

Finally, visitors were asked to rate their overall trip to Wyoming. The results specifically for Sheridan are as follows:

On a five-point scale where 1 = Poor and 5 = Excellent, 77% of Sheridan visitors gave a Excellent rating. The average rating was 4.32 and is defined as “good” or the equivalent of a “B” grade.

In summary, the average visitors to Sheridan are middle-aged adults traveling by their own modes of transportation and without children. They come to the area for leisure and are open to suggestions of new places to visit. The top three activities they chose to engage in are: 1) scenic drives, 3) visiting a town or area, and 3) visiting an attraction or museum.

## VISITOR NEEDS

To address a variety of learning types, proposed interpretation includes graphics, text, sound, and tactile as well as interactive components.



Sheridan-area mining scene, courtesy of Sheridan County Museum

## PROJECT OBJECTIVES

The objectives listed below were voiced and discussed at the Interested Parties Public Meeting in Sheridan on July 31, 2011.

### ***LEARNING OBJECTIVES:***

After experiencing the *Black Diamond Trail*, visitors will:

- understand the cultural diversity that existed here
- understand the sense of community that developed here despite cultural diversity
- understand this history as part of the universal immigrant experience
- understand that though socially discriminated by Sheridan, the members of the coal-mining community led a high quality of life, had a strong work ethic, and built durable families
- understand how important transportation routes are for communities and industries to develop
- understand the physical impact on Sheridan of the mining camps (through moving mine houses to Sheridan)
- understand the cultural impact on Sheridan of the mining camps (many of whose residents and/or offspring became residents of Sheridan)
- recognize the boom and bust nature of natural resource exploitation
- understand that many of Wyoming's landscapes have a history to tell even though physical features of the past no longer exist
- recognize the significance that this site (now largely empty and unpeopled) has had to the economy and culture of the region and state.



Carneyville school, 1912, courtesy of Sheridan County Museum

**BEHAVIORAL OBJECTIVES:**

After experiencing the *Black Diamond Trail*, visitors will:

- explore more of the mining district, including the Kleenburn Recreation Area
- visit the Sheridan County Museum
- make a connection between the historic mines and the contemporary ones, whose trains filled with coal pass through the historic mining district
- look for coal seams and scoria (clinker) in the road cuts and landscape as they continue on their travels
- recognize the importance of conservation of natural resources
- get involved in stewardship and conservation of the landscape.



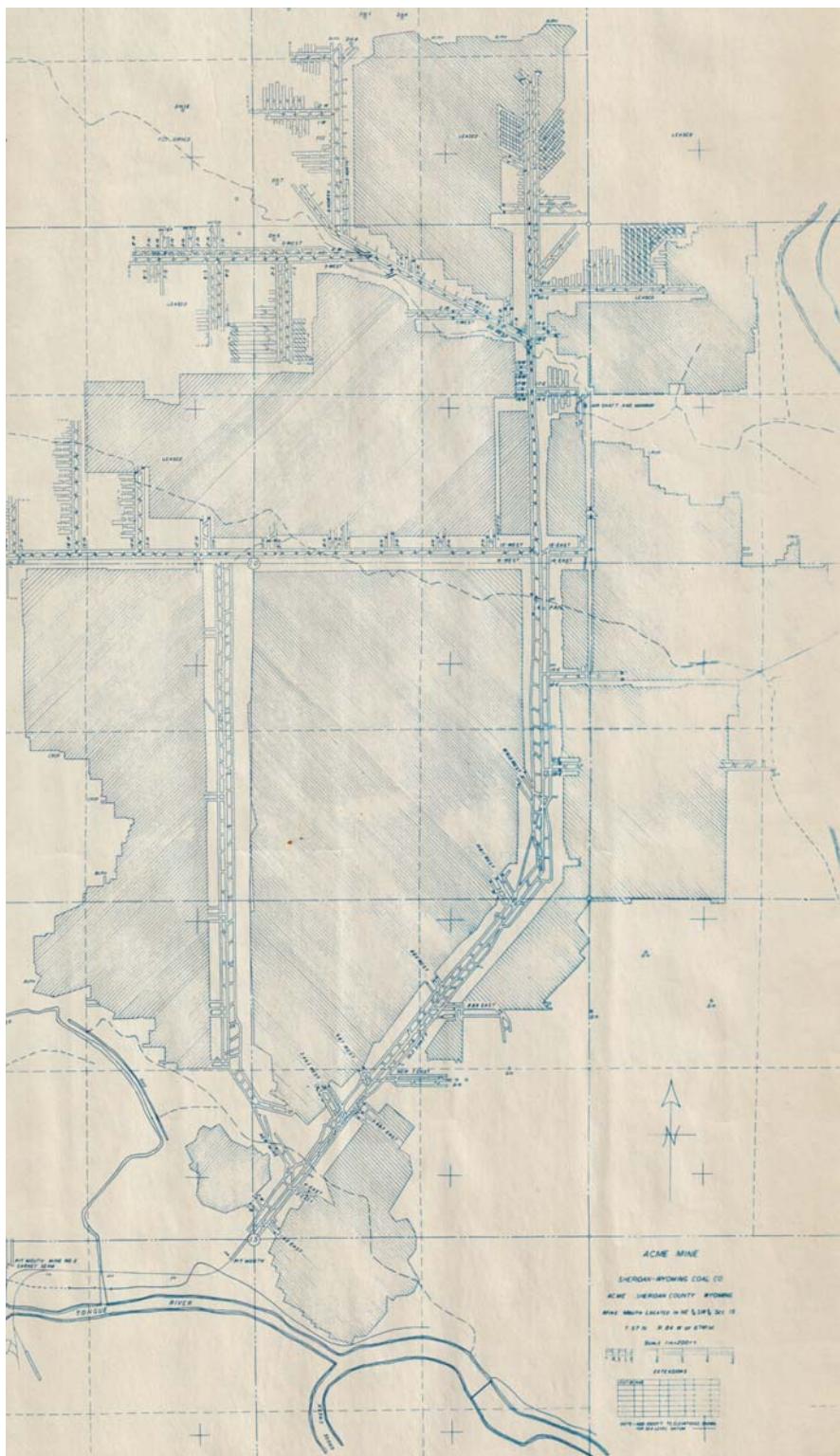
Electric locomotive pulling cars of coal out of Kooi mine, Kuzara collection, courtesy of Sheridan County Museum

**EMOTIONAL OBJECTIVES:**

After experiencing the *Black Diamond Trail*, visitors will:

- be amazed by the number of people who used to live here and the relative lack of evidence on the landscape
- feel empathy for the hardships through which mining families survived.
- feel a connection with the history and the people who have come before them
- feel appreciation for the quality of life and strong sense of community that developed among this diverse group of people
- feel respect for the land as a resource
- appreciate Wyoming's diversity of landscapes, industries, and peoples

- appreciate the boom and bust nature of natural resource exploitation.



Acme Mine underground map, 1938, courtesy of Sheridan County Fulmer Library

## **UNDERLYING THEME:**

An interpretive project has a central theme, which ties together the information presented. It defines what the content covers and does not cover. It establishes the main idea, like the moral of a story.

## **BLACK DIAMOND TRAIL THEME:**

The unifying experience of underground mining brought together ethnically diverse people to build culturally rich, thriving communities.



Miners, horses, and one woman posing at entrance to a Sheridan-area mine, courtesy of Sheridan County Museum

## **INTERPRETATION TOPICS AND SUBTOPICS:**

### **TOPIC 1: SHERIDAN COUNTY COAL-MINING HISTORY**

History of the development and evolution of the Sheridan County coal-mining districts

- 1a: Early coal history of the region: ranchers' use of exposed coal seams for personal need and small-scale local distribution
- 1b. Arrival of the Chicago, Burlington and Quincy Railroad and development of commercial underground coal mining in its wake.
- 1c. Unionization of labor, labor disputes, and strikes
- 1d. Booms and busts of the coal market (economic history) tied to changes in the nation's use of energy, world wars, foreign oil markets, etc.

### **TOPIC 2: SOCIAL HISTORY**

Social, cultural, and demographic impact of the Sheridan County coal-mining districts on the region and state

- 2a. Arrival of immigrants from many different national origins
- 2b. Social discrimination within the mine camps and between Sheridan and the camps; Americanization of immigrants; Polish culture remaining alive in Sheridan
- 2c. Construction of company towns replete with houses, utilities, commercial establishments, and community spaces (including athletic fields, meeting halls, and churches); comparison with mines that did not provide "model" towns for employees
- 2d. Development of sense of community within the far-flung ethnic diversity, unified by the underground mining experience (community social life is a very rich and well documented subject)
- 2e. Development of the Interurban railroad between Sheridan and the mining district, tying these communities together physically, culturally, and economically

### **TOPIC 3: TECHNICAL HISTORY**

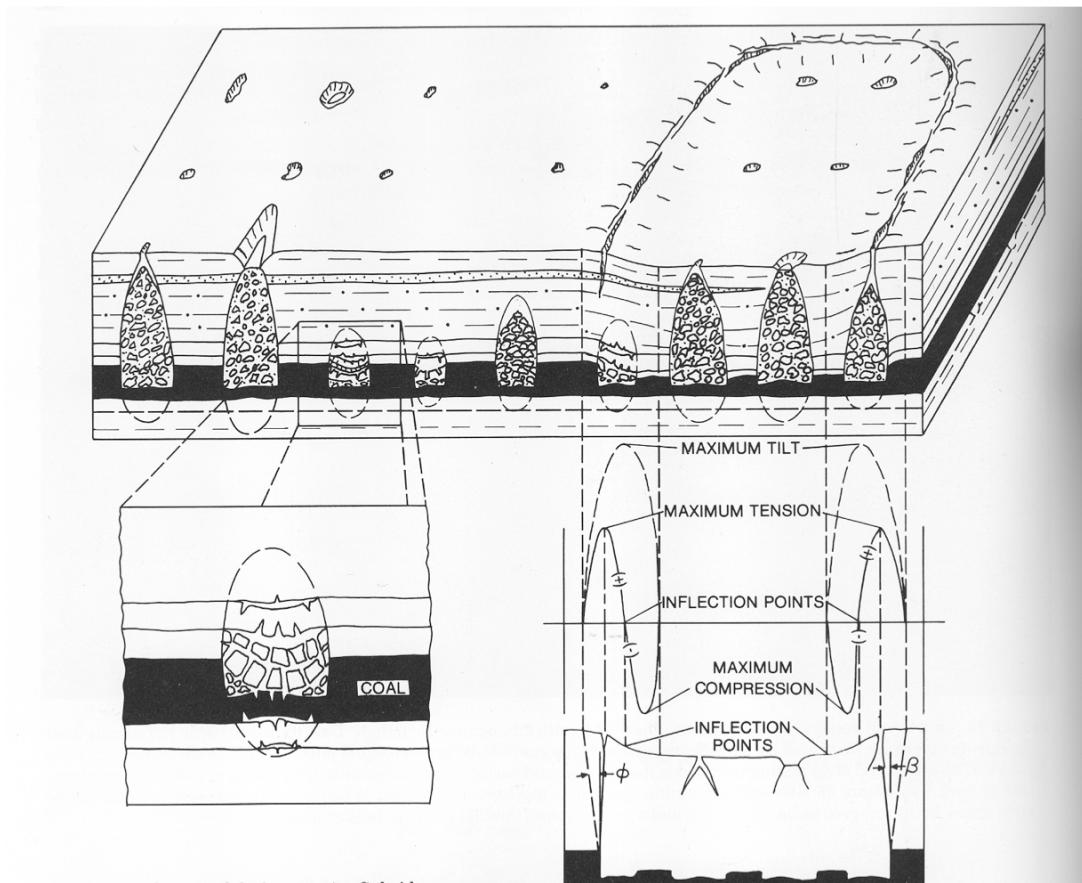
Changes in methods of mining coal

- 3a. Mining by hand and hauling coal with the aid of mules and horses; miners as independent workers, not mine employees; early commercial mines and wagon mines; influence of English mining heritage on development of American mines
- 3b. Mechanization of mining
- 3c. Types of underground mines: drift mines, slope mines, and shaft mines. Transition from underground mining to strip mining (economic conditions, technological changes, and environmental concerns that favor strip mining)
- 3d. Mine accidents, disasters, and risks

## TOPIC 4: GEOLOGIC HISTORY

Why coal is located here:

- 4a. How coal is formed
- 4b. Geologic history of the Powder River Basin
- 4c. Subsidence occurring over abandoned underground mines
- 4d. Underground coal fires, impact to the atmosphere, and transformation of the landscape
- 4e. Low-sulfur coal
- 4f. Coal reserves of Sheridan and of Powder River Basin



Effects of subsidence in Sheridan coal mining region, courtesy of USGS

## STORYLINE DEVELOPMENT

There is a small allowance in the descriptions below for the overlap of material. This is because the subjects overlap and reinforce each other and also because, in the case of roadside signs, we do not expect all visitors to read all signs.

### 1: SHERIDAN COUNTY COAL-MINING HISTORY

*“To enumerate all the coal banks in Sheridan County would be an endless task” (1892, State Geologist).<sup>1</sup>*

The history of coal mining in what is known today as Sheridan County began about 1880 with early ranchers who dug coal from exposed seams for their personal use in cooking and heating their homes.<sup>2</sup> From this developed small-scale local distribution of coal. This most primitive type of mine—outcrops accessed directly by pick and shovel—was called a “wagon mine.” The term refers to the filling of wagons with coal for local delivery and use. Many of these developed in coal seams southwest of Sheridan in the 1890s and early 1900s, some remaining in operation through the 1940s and 1950s. Though relatively small in scale, wagon mines paved the way for and often grew into well-funded, commercial operations.



Tipple from the Black Diamond wagon mine, July 2011, by TMDA

<sup>1</sup> Gardner and Flores, p. 69.

<sup>2</sup> Rosenberg, p. 1.

It took the arrival of the Chicago, Burlington and Quincy Railroad to develop full-scale commercial coal mining in this region. As experienced throughout the state, the opening of coalfields followed in the wake of new railroads. Without transportation of the product to larger markets, large-scale mining had been impossible. Not only did the railroads haul coal to markets, but they were also users of coal for powering their steam locomotives. In fact, the railroads were owners of coalmines in Wyoming (Union Pacific owned mines across the south of the territory/state, and the Chicago, Burlington and Quincy had interests in Cambria in east Wyoming).



Railroad crossing the coalfield north of Sheridan, July 2011, by TMDA

The Chicago, Burlington and Quincy Railroad extended its tracks to Sheridan in 1892 and across the coalfield north of town. The company actively encouraged the development of Sheridan mines.<sup>3</sup> However, early locomotives were unable to run on the subbituminous coal of the Powder River Basin (to which Sheridan County belongs). Faced with this abundant resource, the Chicago, Burlington and Quincy Railroad in 1900–1903 reengineered its locomotives to run on subbituminous coal, making this company the largest market for Sheridan coal. By 1909, the Burlington was transporting Sheridan coal to Nebraska, South Dakota, Montana, Idaho, and Washington.<sup>4</sup>

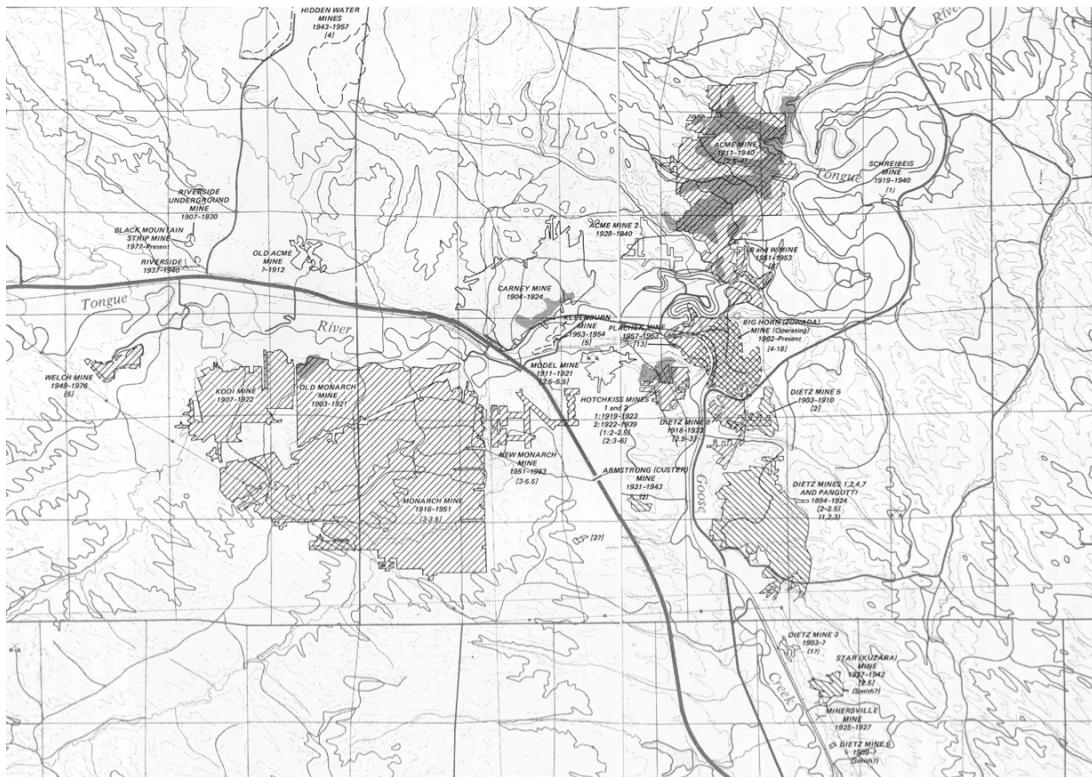
Developing from a wagon mine at Alger, the first commercial mine in the Sheridan field was established in the early 1890s. It was originally called Higby and later Dietz Mine No. 1. This was a drift mine into the Dietz No. 1 coal bed. Beginning in March 1893 it was operated by the Sheridan Fuel Company. The mine and associated “model camp” took the name of Dietz around 1897 when businessman Gould Dietz of

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<sup>3</sup> Rosenberg, p. 1, citing Taff 1909, pp. 148–149.

<sup>4</sup> Rosenberg, p. 1, citing Taff 1909, pp. 149–150.

Omaha became closely associated with the company. The Dietz No. 1 mine was followed by seven other Dietz mines, many of them operating contemporaneously. By 1908 the Dietz mines were employing 1,000 men and accommodating a population of 3,000 in their two company towns. The last mines closed between 1919–23.



Mines of Sheridan map, courtesy of USGS

Other mines developed in the region in much the same way. Wyoming Coal Mining Company opened the first of several Monarch mines in 1903–4, and the last one closed in 1953. Monarch was the largest and longest running underground mining operation in the region. A former church, water tower, visible mine portal, and cemetery continue subtly to assert Monarch's presence on the landscape. The year 1904 also marks the opening of the Carney Coal Company of Iowa's mine (also named Carney) in the Sheridan field. It was purchased by Peabody Coal Company in 1921, which changed the name to Kleenburn. It closed two years later, though the town remained occupied for 10 more years. Kooi, owned by an individual, not a corporation, opened in 1906 and closed in 1922. Founded by administrators of the Dietz mine, Acme mine opened in 1909 and closed operations in 1940, after having sold out to Sheridan-Wyoming Coal Company in 1920, which consolidated all the major mining operations in Sheridan. Known for being one of the nicest places to live, the town of Acme stayed alive until 1977 when Big Horn Coal Mine closed it. A defunct power plant, water tower, mule barn, and suspension bridge are all that remain.

Once the railroad was in place, two remaining obstacles to the development of commercial mines throughout Wyoming were the need of capital to start and operate mines and the need of labor. Not only was Wyoming sparsely populated at this time, but also this region in particular had few residents, being the last area of the territory opened to Euro-American settlement by the U.S. government. This land was the ancestral hunting grounds of the Crow, Sioux, Cheyenne, and Arapaho tribes and was set aside for this purpose and protected in the Treaty of 1868. With the discovery of gold in the Black Hills, the treaty was disregarded, and hostilities ensued. Following the surrender of Sioux leader Crazy Horse in the spring of 1877, ranchers and homesteaders moved in, and the village of Sheridan was established in 1882, but the population in this remote area remained small.

The problem of capital was solved by outsiders investing in mining operations. Labor was harder to come by, however. The town of Sheridan's population in 1890 was 281, which was insufficient to support commercial mining, since 19<sup>th</sup>-century coal mining techniques were labor-intensive. So the mines drew labor from the East and from abroad. More than 20 nationalities were attracted to the Sheridan County mines, which eventually supported at least 10,000 residents in 1911 (5,000 miners plus families) compared with the city of Sheridan's population of 8,408 in 1910.<sup>5</sup>



Monarch mine tipple, courtesy of Sheridan County Museum

Another reason that mines hired foreign workers from a variety of origins was to limit their ability to communicate with each other and

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<sup>5</sup> *Sheridan and the Sheridan Country*.

therefore to hinder the unionization of labor.<sup>6</sup> Although frictions did occur and prejudices did exist among the different ethnicities that settled here, reports from this time and oral histories of people who grew up in the Sheridan mining camps remark about the surprising tolerance that existed among the different nationalities and the fact that they felt like a big family. The experience of working together underground in a common goal, having a mutual work ethic, and living in shared circumstances (everyone in the same boat) bred a sense of unity and a strong sense of community among coal workers and their families. Unionization therefore did succeed.



Miners working coal underground in Sheridan-area mine, courtesy of Sheridan County Museum

Although attempts of Wyoming coal workers to organize had previously failed due to strong opposition from mine owners, Dietz distinguished itself in 1903 when its workers were the first mine in Wyoming to form a “local” within the United Mine Workers of America (UMWA), a fairly recently formed national labor organization. Once established, they helped other locals form in the nearby Sheridan coalfield, and by 1907 the UMWA had organized even the southern Wyoming mines of the Union Pacific, despite UP’s strong resistance.

With the support and encouragement of the union, contracts were negotiated that provided better wages for miners, legislation was passed that limited the workday to eight hours and that increased

<sup>6</sup> Gardner and Flores, pp. 83, 113, 115.

mine safety, working conditions were improved, and labor strikes were organized when companies resisted the miners' demands. Unions also served to unify further the diverse nationalities working in the mines.

Most labor strikes were successful and fairly routine. One, however, was recorded in memories and newspaper articles for its unusual events. During World War I, the UMWA showed its patriotism by pledging to keep the war effort powered by coal and not to strike for better wages until March 31, 1920 or until the end of the war. A year after the war had ended, however, the miners had received no pay increase and faced rising living costs. On September 23, 1919, the UMWA demanded a 60% pay raise, five-day workweek, and six-hour workday effective November 1, 1919, or else it would stage a nationwide coal strike. Describing the demands and the proposed strike as "not only unjustified but unlawful," given the union's pledge, President Woodrow Wilson attempted to block the strike through injunctions and restraining orders.

Regardless of these legal efforts, all union coalmines ceased to operate on November 1, 1919 (notably on Armistice Day, one year after the end of the war). In swift response, the National Guard descended on the camps of Monarch, Acme, Carneyville, and Kooi, rounding up strikers at bayonet point (according to local reports), herding them "like cattle" into box cars, and taking them to Fort MacKenzie for interrogation. All of the Sheridan miners apprehended were reported as being "foreigners," and some were accused of being "agitators" and "radicals." The incident reflects the xenophobia of wartime that pervaded the American public and fueled these events. All prisoners were eventually released with promise of return to work. The miners even won a 14% raise.<sup>7</sup>



"Striking miners at Carneyville being rounded up by militia," Kuzara Collection, courtesy of Sheridan County Fulmer Library

<sup>7</sup> The events of the 1919 strike both in Sheridan County and nationwide are reported in a number of works. A few examples include: Kuzara, pp. 191–196; Gardner and Flores, pp. 155–156; Frankel, pp. 165–171; Industrial Workers of the World, chapter 11.

The boom that spurred Sheridan's entrée into the commercial coal industry resulted from the industrializing nation's need for coal as a fuel for cooking, heating, and powering locomotives. Initiated in 1893, coal mining in the Sheridan area was in full swing by 1908. The advent of World War I only increased the nation's need for coal. At this time and through about 1920, it appeared to all that the nation's demand for coal could only increase due to rising populations and the ever-expanding industrialization of the country. By 1921, however, Sheridan mines began to close, marking the beginning of a bust that lasted several decades. While locomotives continued their use of coal, natural gas became the preferred fuel for cooking and heating, and the introduction of the automobile drove the demand for gasoline, reducing passenger use of trains. It took another world war to create another coal boom. World War II, however, was followed by an even bigger bust, since locomotives switched to diesel fuel in the 1950s, leaving the coal mines abeyant. At this time (1953) the final Sheridan (underground) mines closed their doors. The story of Sheridan coal, however, does not end here. At this same moment, Peter Kiewit and Sons introduced a new approach to coal mining in Sheridan: open pit mining, also called strip mining and surface mining. Known as the Big Horn Coal Mine, it continued on a modest scale until the 1970s. At this time, the Organization of the Petroleum Exporting Countries (OPEC) staged the oil embargo, which resulted in a tripling of oil prices. Power companies soon refitted their operations to run off coal, which was and is cheaper than oil or gas. These events sparked another coal boom that continues today and in which the Powder River Basin plays a major role.

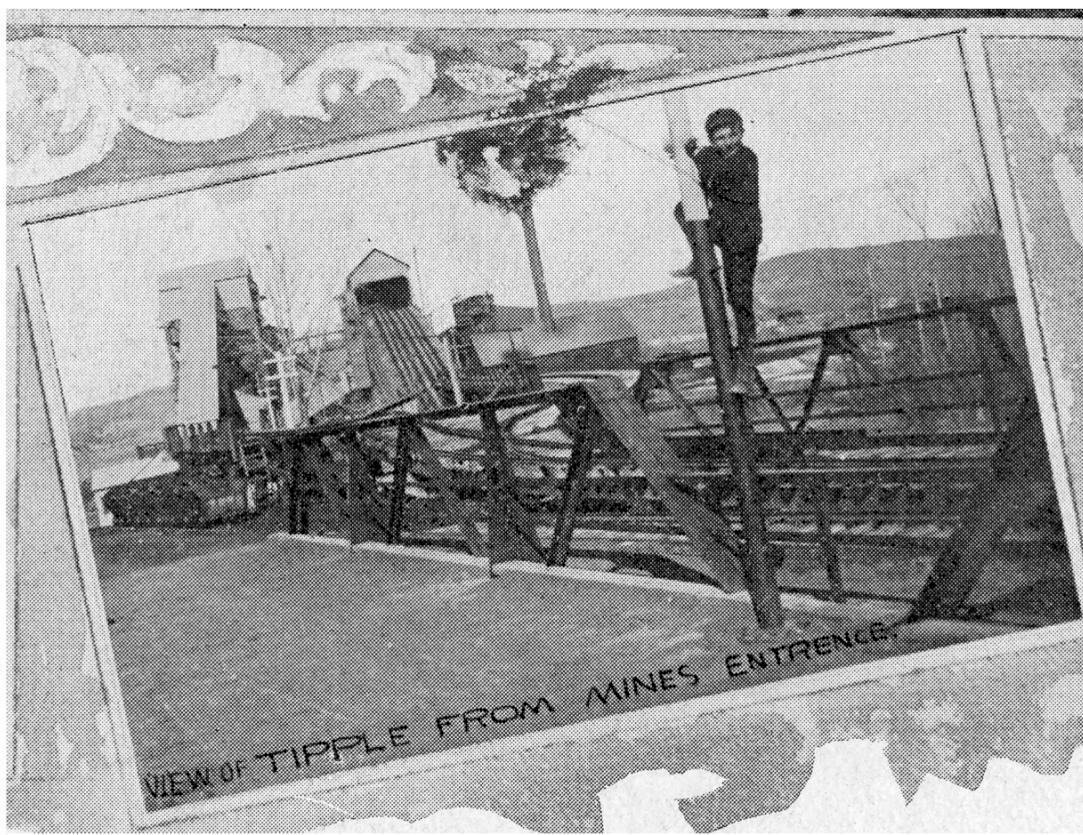


Aerial view of Big Horn coalmine, courtesy of USGS

## TOPIC 2: SOCIAL HISTORY

The coalmines of Sheridan County influenced the region and the state socially, culturally, and demographically. In the context of a very tight labor market in U.S and without a local labor pool from which to draw, the Sheridan mines attracted immigrants—thousands of them—from many different nations. Responding to the bright future and opportunities of the New World, they moved west like many Americans with the goal of reinventing themselves. Later, as mines here closed, some of these immigrants moved on; however, many others, having grown roots in the Sheridan community, found other occupations and stayed. Their descendants remain as tangible connections to the region's frontier mining heritage.

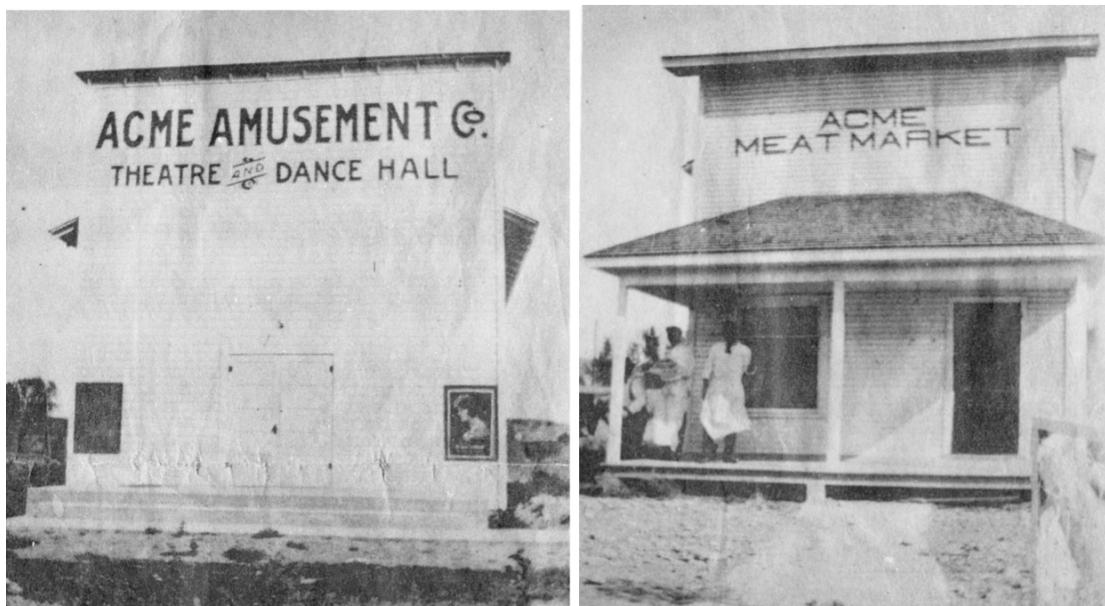
The total number of nationalities or ethnicities represented in the mining community has been reported as being at least 23. These included: American, Polish, Italian, Hungarian, Welsh, Scottish, English, Irish, Czechoslovakian, Bulgarian, Bohemian, Austrian, German, Serbian, Silesian, Montenegrin, Slovakian, Japanese, French, Greek, Swedish, Russian, and Yugoslavian. The Polish were by far the most numerous of the incoming groups, followed by the Italians.



Monarch mine postcard, courtesy of Sheridan County Museum

Many of the miners had left families in the “old country” and were working to accumulate enough money to transport their families to Sheridan County as well. While some accomplished this goal, others did not. Nevertheless, many Sheridan miners did have families, and the mining companies encouraged matrimony, thinking that family men were more stable, dependable employees and less troublesome than bachelors.<sup>8</sup>

Cultural diversity led to a certain amount of social discrimination within the mining camps and between Sheridan and the camps. Language barriers increased these tendencies. Some mines, such as Kooi, attempted to hire only certain nationalities (Polish and English, in this example), claiming that: “they fought only with their fists and would not kill each other with knives and guns.”<sup>9</sup> The fact that mining companies actively sought non-American labor and targeted reputedly docile ethnicities supported their desire to preclude or hinder the unionization of labor, which nevertheless did develop in the Sheridan area.



Acme Amusement Theater & Dance Hall and Acme Meat Market, courtesy of Sheridan County Museum

Another way in which labor strife was controlled was company owners’ attempts to provide fully for miner needs in “model” towns, which were also necessary to accommodate the influx of residents to this sparsely inhabited area. Supplying most miner needs, these towns boasted houses with running water and electricity (rare amenities for rural communities at this time), boarding houses and barracks for bachelors, hospitals, bath houses for miners with hot

<sup>8</sup> Gardner and Flores, p. 104

<sup>9</sup> Mrs. James Crew Reynolds quoted in “Preceptor Eta Chapter hears story of early days at Kooi,” *Sheridan (Wyo.) Press*, February 4, 1975, p. 5.

water showers and baths, general stores, bakeries, pool halls, saloons, reading rooms, schools, company doctors, post offices, churches, community halls, movie theaters, ice cream parlors, barbershops, athletic fields, heated sidewalks, and more.

Though uninsulated and built hastily of prefabricated materials not meant to last beyond the life of the mines, these accommodations provided a setting for rich communal development, and the mines provided improved pay over the old country mines. Even by U.S. standards, the mining towns of Sheridan were luxurious, and newspapers of the early 20<sup>th</sup> century express great pride and surprise in how neat, clean, and well maintained were the Sheridan company mine towns—considering their association with the dirty coal setting and the image (often untrue) of impoverished, uneducated immigrants. Photographs attest to the middle-class status of these communities.

Mining families stretched their income by living off the land: hunting rabbits, fishing, collecting berries, and tending kitchen gardens. During the heyday of the Sheridan mines from 1911 until 1925, an “interurban” electric train (trolley) ran hourly to the city of Sheridan, which filled any social, commercial, and entertainment gaps in the miners’ lives. It was used daily by mine children who attended high school in Sheridan (though only a small percentage extended their education past 8<sup>th</sup> grade) and was especially popular on payday, when the interurban sent three times as many cars to the mine towns (and carried extra passengers on the roof for free).<sup>10</sup>



Townsite of Acme, July 2011, by TMDA

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<sup>10</sup> Kuzara, p. 32.

These residential and civic amenities led to a fairly contented and stable labor force and brought order to the coalfields. They also brought additional revenues to the mining companies in the form of rents and proceeds from commercial sales and gave the companies a good bit of control over the labor force. As stated by a Union Pacific executive, owning the mining town “would give us absolute control of the town in case of trouble with employees. ... I know this absolute control will be more profitable to the coal company than selling of town lots.”<sup>11</sup> All of Sheridan’s larger corporate mines had company towns located near the mines. These included two Dietz communities, Acme, Carneyville (which became Kleenburn), and Monarch. The family-owned mine of Kooi also developed a town. Other smaller mines had informal camps or depended on lodging in the other towns or in Sheridan for their workers. A few of these included Hotchkiss, Star, Model, Riverside, and Custer (aka Armstrong).



Kleenburn Polish Band, courtesy of Sheridan County Museum

Within the mine camps and towns, nationalities often clustered together—whether by company policy, natural tendency, or social pressure. Written accounts and maps recorded during the mining days designate: Macaroni Flats (an Italian neighborhood in Acme), Jap Town (a Japanese neighborhood in Acme), and Hunky Town (an Eastern European neighborhood in Dietz).<sup>12</sup> Newspapers report inter-

<sup>11</sup> Gardner and Flores, pp. 103–104, quoting November 30, 1899, letter from D.O. Clark to G.H. Burt.

<sup>12</sup> Leon Washut, personal communication, January 8, 2012: “Hunky may have come from Bohunk, pejorative for Bohemian which could include Poles and other Central Europeans. Some census and ship manifest information lists Bohemia/n. Lois Washut who came to Sheridan County in 1925 says

ethnic fights, often involving Italians, who were villainized in news reporting for using knives against their opponents. Discriminatory terms such as “Dago” and “Pollack” often appear in reportage, which also describes spoken Polish as “sounding like a cross between a sneeze and a yell.”<sup>13</sup>

One Sheridan author, Stanley Kuzara, writes that members of the mining community in general and especially those of foreign extraction were considered by the residents of Sheridan to be from “across the tracks,”<sup>14</sup> despite the fact that the mining community was more populous than the city and was the economic cornerstone for the region. This prejudice was due to the fact that the miners were viewed as poor laborers, sometimes without education and not speaking English, and often taking refuge in the U.S. from impoverished circumstances at home.<sup>15</sup> Kuzara and other observers also talk of ethnic and racial discrimination within the camps, especially the marginal treatment of Japanese families, who were not only non-U.S.-born but also did not share European roots with the other foreign-born miners and most U.S.-born miners. Social tensions crescendoed in 1923 when St. Thomas Catholic Church of Carneyville burned to the ground alleged by arson—Catholics being considered alien, even though a majority of miners belonged to this faith. Rebuilt the following year, it soon burned to the ground a second time, again allegedly by arson. These fires followed the burning of the priest’s house in Carneyville several years before. St. Thomas was rebuilt again, however this time in stone in the town of Monarch. Ironically, it is now the only remaining structure of this town and Carneyville.



Former St. Thomas Catholic Church of Monarch, July 2011, by TMDA

Regardless of ethnic and linguistic diversity, the overarching experience of sharing the same lot in life and working together

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that when she lived in Ranchester, her neighbors generally referred to the people in the mines as Hunkies or Wops.“ Most of the miners were from Poland and Italy.

<sup>13</sup> Untitled article from The Wyoming Room (Sheridan County Fulmer Library) newspaper files, dated 1977 or later but quoting a report made in 1910 recording a trial that took place in Monarch of defendant Joseph Karzyk.

<sup>14</sup> Kuzara, pp. 1 and 50.

<sup>15</sup> See Gardner and Flores, pp. 85–87, 114

underground bonded this community tightly. Ethnic divisions diminished over time as the men experienced the same hazards, learned the same skills, fought for the same causes, and lived together. Former residents speak wistfully of the sense of family that they shared with other miners, which crossed ethnic barriers.

The mining communities were socially active. Two of the first groups organized when a mine camp developed (anywhere in Wyoming) were a band and a baseball team. Filling out the social scene were: football teams, dramatic societies, fraternal organizations, Pravo and Bolina matches (games similar to curling that were played on frozen rivers), boxing and wrestling tournaments, weight-lifting competitions, choruses, church groups, horseshoe games, marble competitions, Shinny (ice hockey) matches, roller skating, and ice skating. In addition to games and meetings, the residents gathered for dances, theatrical performances, chautauquas, parades, chivarees, weddings, christenings, and funerals.



Kooi band and Kooi baseball team, Kuzara collection, courtesy of Sheridan County Museum

Through these events, they enjoyed each other's cultures and festivals. Some native English speakers even learned Polish, as did the Catholic priest of Dietz, who also delivered sermons in this tongue. The culture's impact on Sheridan was strong, especially as many Polish miners or their descendants eventually moved to Sheridan and became pillars of that community. For many decades, the historic Sheridan Inn provided menus in both English and Polish and staged an annual Polish dinner, and a Polish radio program also aired for decades. Today, Polish Christmas and Easter traditions are observed by some families, and polkas continue to be danced at many Sheridan weddings and events, regardless of ethnic heritage. Spirits likewise transcend cultural barriers, and the Polish drink *Warzonka* is enjoyed by many Sheridan residents. Also very visible in the community is an abundance of Polish surnames.



Polish sausage cooling at Kuzaraville, courtesy of Andrea Kuzara Knutson

Many immigrant names, however, were Anglicized, or at least modified to have fewer Vs, Xs, Ws, and Zs. For example, Sieczkowski became Siegoski, and Piekarczyk (meaning baker in Polish) became Baker. This often took place when people naturalized to become American citizens. It also occurred in the payroll books of mining companies

whose clerks either intentionally or inadvertently changed names.<sup>16</sup> Assimilation within American culture also occurred formally through Americanization classes held within the mining camps, and it took place organically in the melting pot of these culturally diverse communities.

The family of Stewart Kennedy, the mining and civil engineer involved in opening of most of the Sheridan mines, befriended Japanese workers in Dietz, one of whom, Charles Asana, “became almost like one of the family.”<sup>17</sup> Stories such as this are rare, however.



Fourth of July Parade, Kooi, Kuzara/Hotchkiss collection, courtesy of Sheridan County Fulmer Library



The Carneyville Bloomers Girls Baseball Team, Kuzara collection, courtesy of Sheridan County Fulmer Library

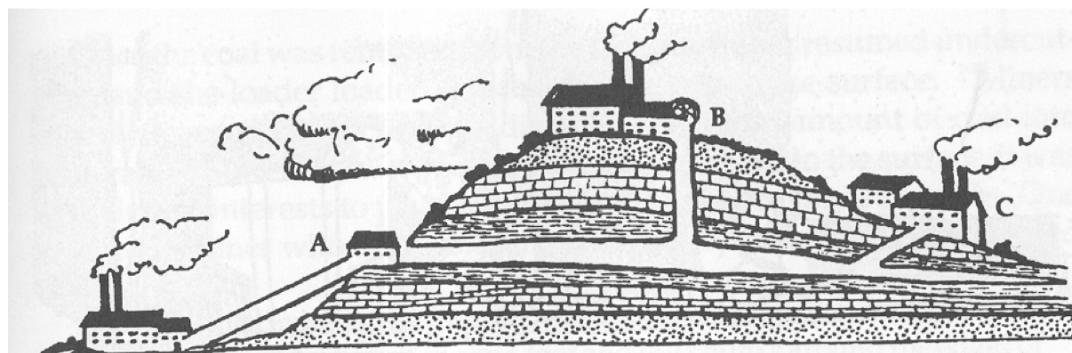
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<sup>16</sup> Kuzara, p. 45.

<sup>17</sup> Ketcham, p. 1

### TOPIC 3: TECHNICAL HISTORY

Wyoming's early coalmining history is tied to mining traditions and methods brought to the U.S. by British underground miners. Coal seams were reached by one of three methods. The most economical situation was the *drift mine*, in which miners tunneled directly into an exposed coal seam in the side of a hill. In a *slope mine*, the coal seam was located at a deeper level but could still be accessed from the side of a hill through a tunnel that was dug, sloping down to the coal level. The costliest mine to open and operate was the *shaft mine*. Here, miners had to dig down deeply into the earth to reach the coal. All people, equipment, and horses had to be lowered into the shaft via a skip, which also returned these as well as all the coal to the surface.

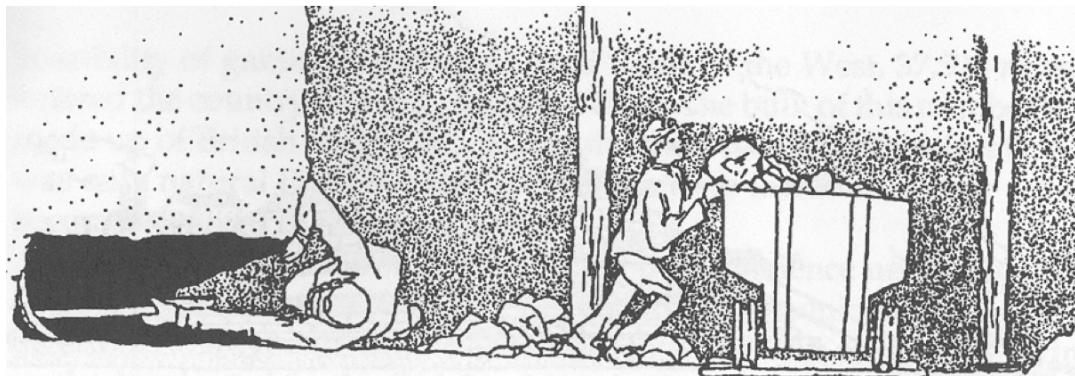


Types of mines diagram: (A) drift mine, (B) shaft mine, (C) slope mine, *Forgotten Frontier*, p. 35

Regardless of the type of coal mine, the method of removing coal was fairly standard, and in the early days was labor intensive. Once a tunnel was driven into the coal vein, individual "rooms" were opened at right angles off the main tunnel. These were about 10–13 feet high and 8–24 feet wide. They would extend into the coal vein several hundred feet. About 3–5 feet of coal were left in the ceiling and floor for stability. Miners worked in pairs in each room, which they quarried for coal. Pillars of coal were left between the rooms to hold up the roof of the mine and the "overburden" (layers of rock overhead). Although there were a few variations on this theme, such as building timber pillars instead of leaving pillars of coal *in situ*, leaving coal pillars was the method used in most Sheridan mines (though just before abandoning an area, the pillars were sometimes "robbed").

Coal was removed in vertical slices. The lead miner would lie on his side and use his pick to undercut the wall of coal (or "working face") in front of him, while his assistant (often his teenaged son) would shovel coal into a coal car. Next, the miner would prepare the face for blasting by using a hand drill with very long bits to penetrate deep holes into the face. He would fill these with black powder and ignite them one-by-one (running out of the room for the blast). While his assistant removed the chunks of fallen coal, the miner would begin to

undercut the next face. A mule or horse would pull the loaded mine car out of the mine and up to the tipple. Here, a series of screens sorted the coal into different sizes (pea, egg, and lump), which sold for different prices.



Mining by hand, *Forgotten Frontier*, p. 36

In addition to the main entry tunnel through which coal was moved would be a parallel tunnel. Often used by men accessing the mine, its purpose was to ventilate the mine (by creating a U-shaped tube through which air could flow: one arm serving for intake and the other for exhaust, augmented with a fan in one opening) and provide additional egress. Also, a vertical airshaft to the surface above provided a third means of escape via a long ladder. These were some of the safety codes imposed on mines by Wyoming's 1886 Coal Mine Safety Act, which made the territory a leader in improving mining conditions. The law also prohibited boys under 14 and all girls and women from "being in or about any coal mine." This still sounds young, but prior to this act, boys started tipple work at age four. The legislation was not followed in small, family-run mines, where children often worked to help the business.<sup>18</sup> More bills passed in 1909 emphasized mine safety, and their enactment resulted in dramatically safer conditions and fewer deaths.

Outside the mine were a host of other support structures. In addition to the tipple there may have been a steam plant, pump house, machine shops, carpenter shops, blacksmith shops, hoist houses, boiler houses, and a paint shop.

Over the life of the Sheridan coalfield, these methods modernized. Sheridan mines were repeatedly described (even by impartial government sources) as being exemplar and state-of-the-art. Even when totally mechanized, however, the basic mining concept remained the same. A steam plant was built in 1899 at the Dietz mine

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<sup>18</sup> Gardner and Flores, pp. 39 and 54

No. 1; however later mines (such as Monarch in 1904 and Acme in 1909) were equipped with power plants from the start. (In 1912, Acme was credited with having “one of the largest electrical plants in the entire northwest.”) The plants electrified the mines with lighting in the main tunnels. Other improvements included: a telephone system running throughout, a machine to undercut the coal; a power drill to replace the hand-drill, and alternatives to black powder, for example Cardox and Airdox. Small, electric locomotives were developed for pulling long trains of coal cars to conveyor belts on the tipples, though horses and mules continued to be used for decades for pulling the cars from the coal rooms to the main entryways. Horses and mules were eventually replaced with electric locomotives.



Miners with electric locomotive pulling coal cars, courtesy of Sheridan County Museum

Mines reportedly left the animals underground all year. Only because of legislation passed for the humane treatment of animals were mines forced to bring them outside for two weeks per year. At these times, the animals were said to be unable “to stay on the ground (they would run and jump in wild ecstasy).”<sup>19</sup>

In the early days, miners were independent contractors. They did not work *for* the mines but were paid by the ton of coal produced (“tonnage rate”). They were therefore in control of their earnings: if they worked hard and fast, they earned more money than if they

<sup>19</sup> Interview with Wade Ratcliff, 1973, in Kuzara, p. 99.

worked slowly. This independence was called a “miner’s freedom.” Miners were proud of their skills, which reflected knowledge of the job, dexterity, and experience. Not everyone who worked for the mine, however, was a trained, independent miner. There were apprentices and other laborers who were being trained to be miners, and there were “company men” who were employees of the mine and provided support to the miners, such as hauling coal to the surface, tending the horses or mules, working the tipple, laying track, setting up timber props, blacksmithing, checking air quality, and supervising the operation.

The skills and roles of miners changed as mines mechanized. They went from being skilled craftsmen to being machine operators. Since machines worked hard and fast without tiring, use of machines accelerated coal production and reduced the number of laborers needed. Coal mining transformed from a labor-intensive occupation to a mechanized one.



Miner with electric loading machine, *Forgotten Frontier*, p. 149

The next step in mechanization of Sheridan coalmines took place in the 1950s at the same time that the last corporate underground mine in the Sheridan area closed its doors: the Monarch mine in 1953 during the bust that followed World War II. In 1943 Peter Kiewit and Sons established a district office in Sheridan. A military contractor

supplying equipment to the Army during the war, this company had a surplus of earth moving equipment, which it used to open Big Horn coalmine, a surface mine adjoining the Acme underground mine. Also known as strip or open-pit mining, surface mining had been introduced at the Wyodak mine near Gillette in 1925 and was beginning to replace underground mining as a more economical way to produce coal when it is located 100 feet or less underground.

With this method, topsoil and overburden are removed and set aside. The coal seam, now exposed from above, can be removed from the top. Unlike the room-and-pillar method, which leaves about 60% of the coal underground, this system removes nearly all the coal. Next, the overburden and topsoil are replaced. In early operations, the site was then abandoned, but due to environmental safety pressures, coal companies are now required to revegetate the disturbed land and to bring it back to useable condition. Although the Big Horn mine has now closed and reclaimed the disturbed landscape north of Sheridan, the potential remains in this area for much more strip mining.



Strip (coal) mining near Sheridan, courtesy of Sheridan County Museum

While risks of explosion and inhalation of coal dust continue to plague strip miners, the risks are considerably fewer than with underground mining. Deaths due to explosions, inhalation of toxic gases, and crushing—especially from collapse of mine roofs and getting caught between coal cars—were far too common in the underground experience. That said, Sheridan mines had an excellent safety record

and far fewer lives lost than other mines in the state. One of the worst disasters in this region was an explosion that occurred in the Dietz Mine No. 8 on June 4, 1919. The resultant death of two miners was made more poignant in that one of the miners, Bob Gault, was not on his usual shift, which he had exchanged with a colleague in order to attend his daughter's wedding the following day.



Carneyville Cemetery, July 2011, by TMDA



Monarch Cemetery, July 2010, by Dave Paullin

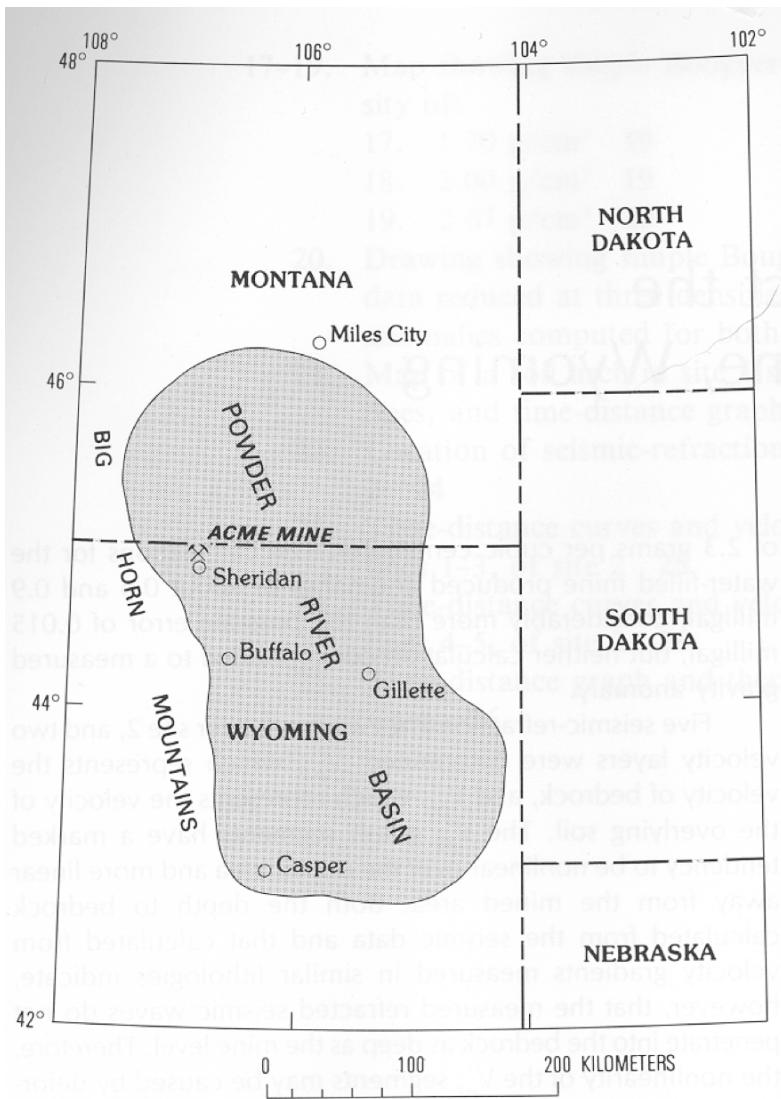
## **TOPIC 4: GEOLOGIC HISTORY**

As reported in the *Cheyenne Daily Leader* on November 24, 1869, Wyoming coal “ranks with the best coals in the world. ... It staggers the human mind to comprehend the power lying hidden and dormant in these boundless and endless mountain depositories.”

Coal is a mineral. It is defined as a combustible, organic, sedimentary rock. It is formed from plant material that accumulates in wetlands and is altered and preserved over time. Wetlands often lead to the formation of coal since they support vast amounts of vegetation. As plants die, their remains (leaves, roots, stems, and tree trunks) accumulate rapidly in a layer called *peat*. Peat occurs below the water line, where bacteria break down and alter the plant material, turning it into a dark gel. These biological and chemical changes occur over millions of years as new layers push the older gel farther underground, where it is pressed from above and cooked from the earth’s temperatures below. The process drives off excess moisture, resulting in the formation of the solid material called coal.

Coal reserves underlie more than half the state of Wyoming—that is, the non-mountainous areas. This is due to the warm, tropical-to-subtropical conditions that characterized this region some 55 million years ago, making the area of Wyoming a Late Paleocene swamp, punctuated with mountain ranges. These marshy conditions endured for 25 million years, leading to the development of very deep peat bogs in the basins between mountain ranges. Periodically, sediments from surrounding mountains would wash down and bury the peat. This process eventually led to the formation of vast coal beds.

Sheridan is located in the northwest quadrant of one such basin, the Powder River Basin, which is bounded on the east by the Black Hills, on the west by the Big Horn Mountains, and on the south by Casper Mountain and the Hartville uplift. Spanning northeastern Wyoming and southeastern Montana, this is the largest coal-producing region in the U.S. and one of the richest coal deposits in the world. Some coal seams here are more than 200 hundred feet thick, representing tremendous volumes of plant life. Over the past several million years, upper layers of rock have eroded, leaving Powder River Basin coal seams close to the surface in places, sometimes even visible, and therefore accessible, which is one of its merits. The Powder River Basin is estimated to contain hundreds of billions of tons of coal—even after over a century of mining. However, most of this is located too deep underground to be economically feasible to mine (i.e., having more than 500 feet of overburden).



Powder River Basin map, courtesy of USGS

Most Powder River Basin coal being mined belongs to the Wasatch Formation (dating to the Eocene) and to the Tongue River Member of the Fort Union Formation (dating to the Paleocene). Sheridan is located at the intersection of these two formations. Seams here range from 3–56 feet in depth.

Powder River Basin coal is classified as subbituminous, meaning that it burns cooler and is therefore usually less desirable than other coals, such as bituminous and anthracite. Its merit, however, is its low-sulfur content, which when burned meets the nation's current sulfur dioxide emission allowances. This feature makes Wyoming coal very desirable, nationwide. About half of the energy used in the U.S. derives from coal, and the Powder River Basin supplies about 40% of this. All of the Powder River Basin coalmines today are surface mines.

Surface mining makes the most sense in today's economy and with today's technology. Due to the availability of large earth-moving machines, strip mining efficiently removes most of the coal, it reduces the number of workers needed, it reduces hazards and increases safety, and it also removes some of the problems associated with abandoned underground mines. One of these is *subsidence*. This term refers to large pits, troughs, depressions, tension cracks, and compression bulges in the landscape that occur where the mine roofs have collapsed and overburden has caved in. With aerial photography, one can see the plan of the Acme, Dietz, and Monarch underground mines due to the pattern of subsidence pits. With pits occurring between the pillars of coal left behind (in the room-and-pillar system), the appearance resembles a checkerboard. Subsidence occurs where the overburden is less than 200 feet thick or is less than 10–15 times the thickness of coal mined. The time it takes for subsidence to occur depends upon the depth and strength of overburden, the size of the mine openings, and the amount of water present. It can continue for 10–25 years. The relatively weak overburden in the Sheridan mines is composed of claystones, shales, and soft sandstone. At 16–200 feet in depth (over the Sheridan mines), it is fairly shallow.

Problems related to subsidence are: risk to human and agricultural activities on the surface (i.e., loss of use of the land, loss of livestock and crops, and potential loss of structures built over these areas) and disruption or diversion of ground water and surface water.



Aerial view of the subsidence over Monarch mines, courtesy of USGS

Another problem plaguing this region and associated with abandoned underground mines is underground fires—though exposed strip mines can also catch fire. These begin spontaneously when water and air enter a mine through subsidence cracks and pits. Once lit, fires can spread into valuable, unmined coal reserves, which create new cavities, new subsidence, and more fires. In addition, coal fires pollute ground water and pollute the air with noxious gases (including methane and carbon monoxide), steam, and smoke. These are hazardous for area residents, livestock, wildlife, and vegetation. Fires can also breach the surface and burn vegetation. They can also ignite underground gases, causing explosions.

Lightning strikes can also ignite exposed coal seams, which is how coal fires were lit before there were abandoned mines. Evidence of prehistoric fires is the bright red to reddish-orange landscape in the hills north of Sheridan and throughout the Powder River Basin. These mark where coal fires burned for decades—perhaps even centuries—turning the layers of soft stone above them into hard, brittle, reddish *clinker*, which is highly magnetic. Resistant to erosion, outcrops of clinker remain as protective caps on high buttes and ridges. Clinker is itself quarried for use as gravel in roadbeds.



Clinker near Kooi mine (Dave Paullin on right), July 2011, by TMDA

Other adverse effects of underground mining are seismic activity due to subsidence and underground fires and pollution or diversion of

ground water or surface water. Although surface mining also brings these risks and disturbs the total surface of the landscape, if carefully reclaimed through regrading and revegetation, it is generally thought that the hazards are less severe and that land can be more easily put back to use than land over an underground mine. The environmental effects of surface mining, however, are not yet fully known.



Underground fires at Acme mine, 1975, courtesy of USGS



"Big Horn Coal Company Shovel sunken into old Dietz #8 room," 1971, by Stan Kuzara, courtesy of Sheridan County Fulmer Library

## **MEDIA PLAN AND RECOMMENDATIONS**

This interpretive plan will be used to guide the development and design of the media suggested below.

*Please note that cost estimates provided below are not based on defined scope and design and therefore are hypothetical. Depending upon scope, design, and available budget, these could change.*

### **1. ROUTE OF THE BLACK DIAMOND TRAIL**

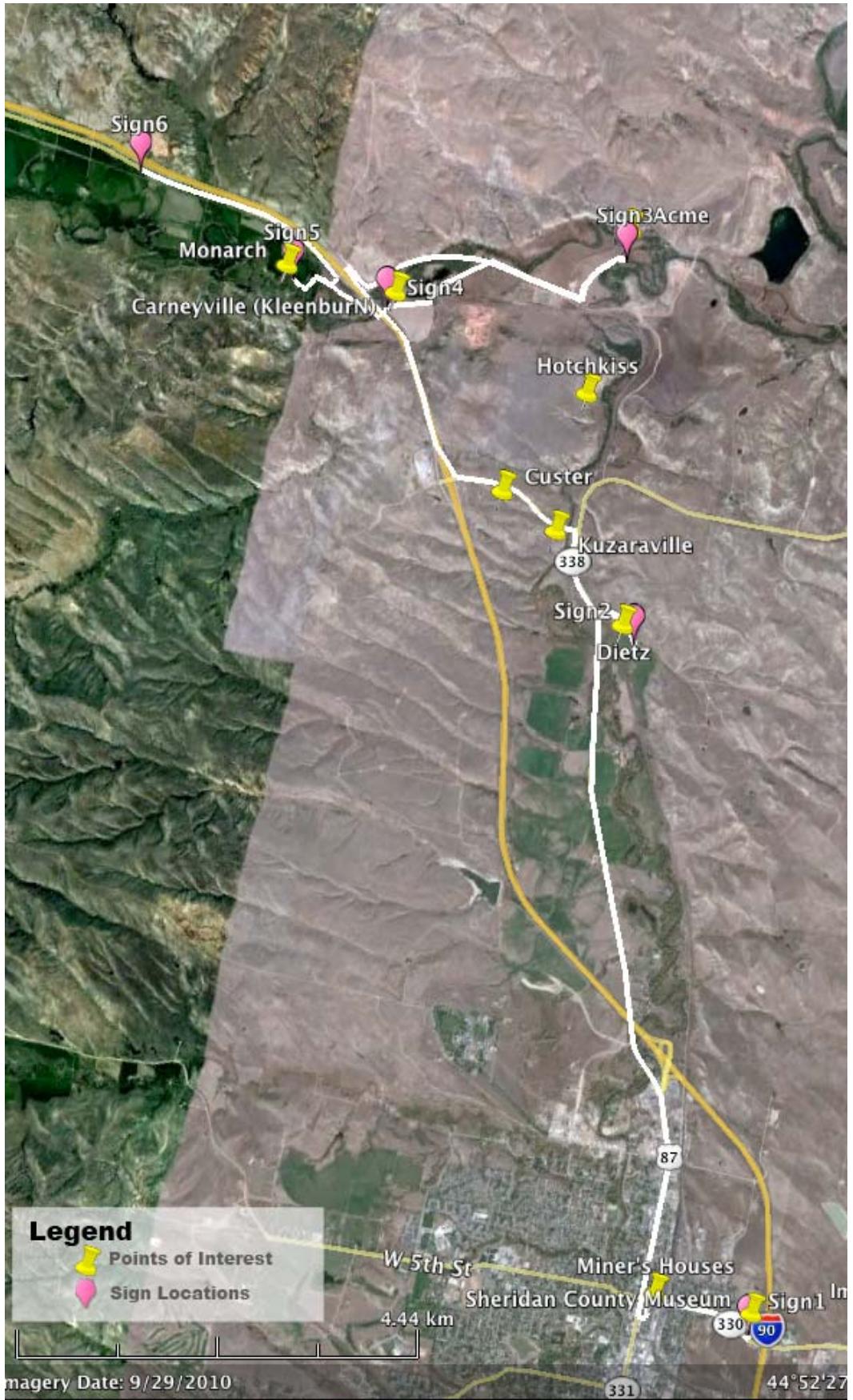
The map below defines the proposed byway route.

One terminus is the Sheridan County Museum, whose exhibits and grounds include interpretive materials relevant to the Black Diamond Trail. These are: an intricate model of the Monarch mine town, other mining artifacts, and a car from the Sheridan trolley line to Fort Mackenzie.

The other terminus is the pullout on Highway 345 close to the town of Kooi, which is located on private property and therefore not accessible.

The route also includes an excursion through the city of Sheridan to see some of the mine camp houses that were moved to this site when the mines closed.

Because visitors to the byway may be entering from two primary points (westbound I-90 or eastbound I-90), the trail needs to accommodate motorists in both directions. It is recommended, therefore, that any interpretive panels placed on the route include a small trail map marking the route and the locations of other signs.



### **ROUTE MAP**

- Begin at the Sheridan County Museum. This is also the location for the *Black Diamond Trail Sign 1*.
- Travel west along 5<sup>th</sup> Street, and turn left onto N. Gould Street.
- Continue south on N. Gould Street for two blocks, noticing the historic mine houses that have been moved here.
- Turn right onto E. 3<sup>rd</sup> Street, and turn right again onto N. Main Street/Business I-90.
- Continuing northward, turn left onto Decker Road/Highway 338 before the I-90 interchange.
- Continue northward, turning right onto County Road 1231/Dietz Beatty Gulch Road. At the fork in the road, stop under the trees to view the former site of the main town of Dietz and *Black Diamond Trail Sign 2*.
- Turn around, retracing steps to Decker Road/Highway 338. Turn right here and continue northward.
- Turn left on Highway 339, passing former Kuzaraville and the Custer/Armstrong Mine.
- Turn right on the access road to I-90 and enter the interstate going westbound. Notice Monarch and Carneyville cemeteries on the right.
- Take the next exit (no. 14), and turn right onto Monarch Road and right again onto Acme Road.
- Located on private property, Monarch Cemetery (known as a Protestant cemetery) is visible from the pullout on Monarch Road.
- Follow Acme Road until it ends. Then turn left onto unpaved road until it ends, noticing the former townsite of Acme on your left.
- Park here under the cottonwood trees to view the *Black Diamond Trail Sign 3* and experience the old town site along the Big Goose Creek. Those wanting a very short excursion can walk to the Big Goose Creek and see the remains of a suspension footbridge that dates to the Acme's golden days.
- Turn around and retrace steps to Acme Road. Head west and veer left at the fork onto Kleenburn Road/County Road 106.
- On your right you will pass the Kleenburn Recreation Area. A public restroom and recreation opportunities are located here. This is the site of the Carney/Kleenburn tipple, and visitors can also see the ponds that owe their existence to the surface mining that took place here after the underground mines closed.
- Continue south on Kleenburn Road/County Road 106 until it ends. Turn right to continue on Kleenburn Road/County Road 106.
- Before the underpass under I-90, use the pullout on the right to park. From here you can view the former town of Carneyville/Kleenburn and the *Black Diamond Trail Sign 4*.
- Located on private property, the Carneyville Cemetery, known as a Catholic cemetery, is visible from *Black Diamond Trail Sign 4*.

- Continue southwest on Kleenburn Rd./County Road 106. After the underpass beneath I-90, this road makes a sharp right turn. Notice the Monarch air intake portal straight ahead.
- Continue northwest on this road, which feeds onto Monarch Road.
- Continue on Monarch Road across a small bridge, winding to the right, past cottonwood trees.
- Stop at the top of the incline to view the former town of Monarch (whose stone Catholic church still stands but is now a private residence OFF the trail) and the *Black Diamond Trail Sign 5*.
- Turn around and retrace steps to the intersection of Monarch Road and Kleenburn Road.
- Turn left here to stay on Monarch Road.
- Turn left onto Highway 345 (before the entry ramp onto I-90)
- Continue 1.6 miles along Highway 345 to the pullout on the left. Stop here to view the general landscape of the mining town of Kooi (located about two miles west-southwest of here) and view the *Black Diamond Trail Sign 6*.
- Return to I-90 eastbound or westbound.

## **2. EXTERIOR INTERPRETIVE SIGN SERIES**

It is recommended that six exterior interpretive roadside panels be located along the route. Their content should develop the theme and topics described above. They should include text, photographs, diagrams, and maps. They should be located along the trail at existing pull-outs or appropriate places where cars can safely stop. Please see map, above, for proposed route, points of interest, and sign locations. Proposed sign topics are outlined below.

To mark the trail, sign graphics should be distinctive, identifying the byway and reflecting the industrial character of the subject matter. This might take a newsreel look, which would lend itself to illustration with historic photographs and newspaper excerpts. The mining theme should be incorporated into the structural supports for the panels to expand the interpretation and emphasize the identity of the trail. The graphic template and style palette developed for these signs should also be used in developing other interpretive and marketing media, such as brochures.

As described below in the outline of sign topics, each sign describes the former mine town that it overlooks as well as one of the general storylines that ties the mines together. It is recommended that the description of the former towns present a *then-and-now* perspective, by illustrating with historic photographs (if possible) the busy towns as they looked in the 1910s compared to the empty pastureland that one sees today.

Cost estimate for six signs: \$37,000 to \$67,000 for research, writing, graphic design, layout, image collection and licensing, design of artistic sign structure, review and correction process, fabrication of signs in high-pressure laminate, fabrication of artistic steel sign structures, and assembly. Packaging, shipping, and installation not included.

#### **HIGHWAY APPROACH SIGNS**

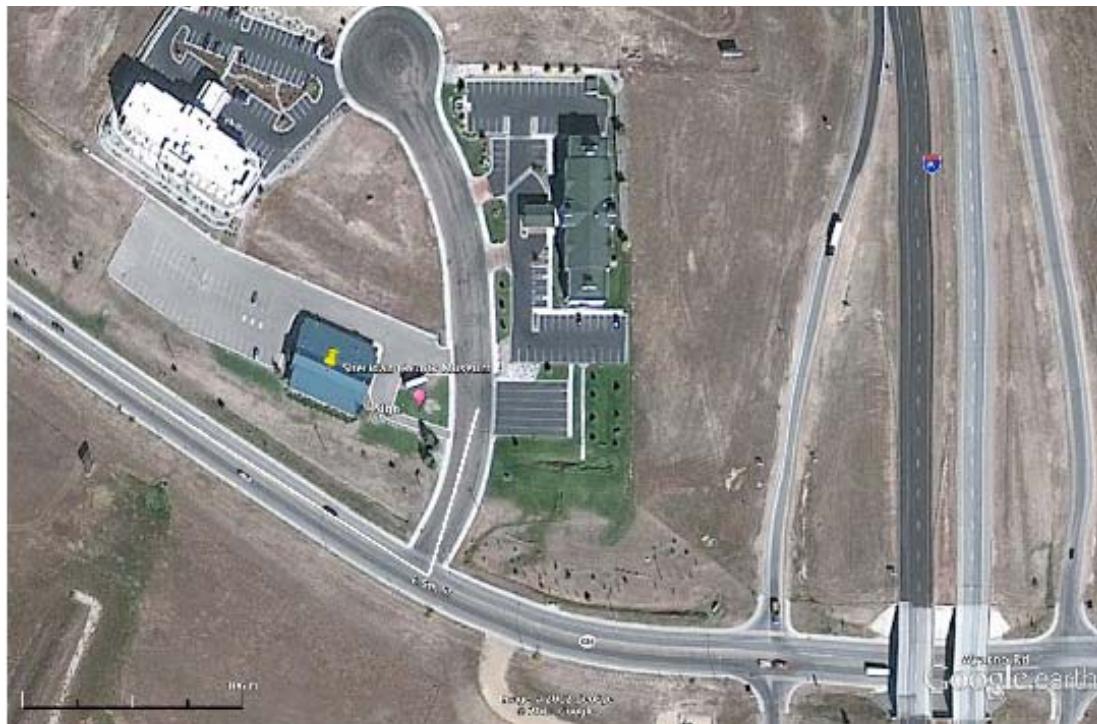
It is recommended that the Wyoming Department of Transportation (WYDOT) or other agency provide small signs indicating the path of the trail, at least at turn-off points along I-90.

#### **THE SIX SIGN TOPICS / LOCATIONS INCLUDE:**

*Sign location 1: Parking lot of the Sheridan County Museum near the Sheridan trolley car.*

##### *Sign topic 1:*

- Early coal history of the region: wagon mines, including those southwest of town
- Arrival of the Chicago, Burlington and Quincy Railroad and development of commercial underground coal mining in its wake
- Booms and busts of the coal market (economic history) tied to changes in the nation's use of energy, world wars, foreign oil markets, etc.



Detail Map for Black Diamond Trail Sign 1

*Sign location 2: Overlooking the main town of Dietz along County Road 1231/Dietz Beatty Gulch Road at the fork in the road*

*Sign topic 2:*

- History of the mines and main town of Dietz
- Arrival of immigrants from many different national origins
- Social discrimination within the mine camps and between Sheridan and the camps; Americanization of immigrants; Polish culture remaining alive in Sheridan
- Unionization of labor, labor disputes, and strikes
- Development of sense of community within the far-flung ethnic diversity, unified by the underground mining experience (community social life among Sheridan County coal towns being a very rich and well documented subject)



Detail Map for Black Diamond Trail Sign 2

*Sign location 3:* Under cottonwoods at the Acme townsite located at the end of the unpaved road that turns left at the end of Acme Road



Photograph of proposed site for Black Diamond Trail Sign 3

*Sign topic 3:*

- History of the mines and town of Acme
- Construction of company towns replete with houses, utilities, commercial establishments, and community spaces (including athletic fields, meeting halls, and churches); comparison with mines that did not provide “model” towns for employees
- Development of the Interurban between Sheridan and the mining district, tying these communities together physically, culturally, and economically



Detail Map for Black Diamond Trail Sign 3

*Sign location 4:* Pullout on Kleenburn Road/County Road 106 just east of the underpass under I-90 and overlooking the former town of Carneyville/Kleenburn. *Alternate location:* Kleenburn Recreation Area

*Sign topic 4:*

- History of the mines and town of Carneyville/Kleenburn
- Mining by hand and hauling coal with the aid of mules and horses; miners as independent workers, not mine employees; early commercial mines and wagon mines; influence of English mining heritage on development of American mines
- Mechanization of mining
- Mine accidents, disasters, and risks



Detail Map for Black Diamond Trail Sign 4

*Sign location 5:* Along Monarch Road winding right past cottonwood trees to the top of an incline to view the former town of Monarch

*Sign topic 5:*

- History of the mines and town of Monarch
- Types of underground mines: drift mines, slope mines, and shaft mines. Transition from underground mining to strip mining (economic conditions, technological changes, and environmental concerns that favor strip mining)
- Subsidence occurring over abandoned underground mines
- Underground coal fires, impact to the atmosphere, and transformation of the landscape



Detail Map for Black Diamond Trail Sign 5

*Sign location 6:* Pull-out along highway 345 overlooking general landscape of the mining town of Kooi (located about two miles west-southwest of here)

*Sign topic 6:*

- History of the mines and town of Kooi
- Geologic history of the Powder River Basin
- Low sulfur coal
- Coal reserves of Sheridan and of Powder River



Detail Map for Black Diamond Trail Sign 6

### **3. BROCHURE**

Following the precedent set by the previous two Wyoming Historic Mine Trails and Byways, we recommend developing a brochure of this trail. It should provide a clear map of the route of the Black Diamond Trail with points of interest noted. It should also include photographs and text that provide an overview of the byway interpretation. This brochure can use existing marketing strategies and be distributed through state, regional, and local tourism channels in order to make travelers aware of the trail and to accompany them on the trail.

Cost estimate: \$4000 to \$16,000 for research, writing, graphic design, layout, development of maps, development of illustrations, image collection, image licensing, photographic enhancement, mockups, review process, and proofs. Printing and shipping cannot be estimated without parameters.

### **4. WEBSITE**

With most travelers planning their trips using the Internet, a website is a strong method for building awareness of the *Black Diamond Trail*. It is useful for planning trips and orienting visitors. It also provides information to those unable to experience the byway in person.

The website should provide the *Black Diamond Trail* route map and locations of interpretation. It is also a venue for unlimited additional information about the byway and the history of the region. For example, it could include:

- a virtual tour of the trail
- historic photographs
- video clips such as flyovers and interviews/oral histories
- recreational opportunities
- links to related museums, chambers of commerce, Wyoming Office of Tourism, and other partner organizations in the region
- links to other Wyoming Historic Mine Trails and Byways

Cost estimate: \$8000 to \$16,000, depending upon website complexity

### **5. AUDIO TOUR**

In conjunction with the roadside interpretive panels, we recommend an interpretive audio component that could either narrate a tour of the trail or provide an auditory dimension at each of the interpretive roadside signs. This is an opportunity to utilize some of the many oral histories that the Sheridan Community Land Trust and Sheridan County Fulmer Library have collected; however, they would need to be

edited down to very short clips, and possibly narrated by professional voice talent.

While a text panel has only a few seconds to capture and keep readers' attention, audio tour listeners are captive for longer periods of time. Therefore, if this component were developed as an audio driving tour to accompany drivers along the *Black Diamond Trail*, the oral history clips could include narration, music, voices speaking in Polish and other languages, and the sounds of blasting and machinery.

The Sheridan Community Land Trust has suggested the use of QR Code technology on the panels. This could certainly be developed if cellular telephone coverage is strong at each of the panel locations. This technology uses a graphic image, like a bar code, that can be scanned (photographed) with a smart phone to access a website with videos and Podcasts. The QR Codes link to specific pages of a website that automatically start playing the associated Podcast. This is a recent technology, and, like other leading technologies, it is not accessible to all, even if cellular coverage is available. It requires the cell phone owner to have a data plan and to not mind paying to use it. The cool factor of using newer technology would need to be weighed against limited access to visitors.



Sample QR code

In the event that poor cellular telephone reception inhibits the use of QR Codes at this site (at this time), the same idea for an audio component could still be developed by downloading a Podcast from the trail website or by receiving a Podcast file or CD from the Sheridan County Historical Museum. This could then be used as an audio

driving tour. Radio also presents another medium for reaching broad audiences with an audio component.

Cost estimate: Approximately \$500–700/minute of audio. This includes development of storylines, scripting, narration, editing of oral histories, sound effects, and background music.

## **6. VIDEO TOUR**

Many visitors would respond favorably to an interpretive video component. This could be a virtual tour of the *Black Diamond Trail* viewed from a computer and located on the trail's website. Or, with advances in image technology and accessibility of portable digital devices, the audio tour could be illustrated with video and accompany visitors on the trail—either as a continuous story or QR Code clips accessed at each interpretive panel. The video component could even develop the *then-and-now* concept by presenting historic images of the coalmining towns (the Sheridan community harbors many more images than can be displayed on the interpretive panels) or even video tours through digital 3D reconstructions of each mining town. The visitor could compare the empty fields and remaining artifacts with the images on screen to appreciate how the land was formerly occupied.

Production costs of these ideas range considerably, depending upon whether existing historical images are used or 3D modeling is developed. If using historic imagery provided by the community to illustrate an existing audio tour, the cost would be ca. \$400–500 per minute. If a script and voice talent were additionally needed, the price would be closer to \$600–800 per minute.

## **7. EXHIBIT**

Exhibits are a wonderful way to enrich the *Black Diamond Trail* experience.

- A walk-in mine diorama to be located inside (space permitting) or outside the Sheridan County Museum, or across the highway at the Wyoming Office of Tourism Welcome Center. A tunnel would be sculpted to look and feel like a coalmine. Visitors enter it through either the main entry or the air tunnel (which connect at the rear, as they did in the mines), following a string of dim lights barely illuminating the dark, sooty walls. The space is filled with sounds of miners chipping away at the walls, the clanking of ore cars, braying mules, and an occasional blast. A voiceover relates the daily grind of a miner and how much coal he would have unearthed for what pay. The visitor senses the arduousness of this lifestyle, as well as the camaraderie of the miners. Like the giddy mules when released to the surface, the miner lived for the

culturally rich life outside the mine, but toiled below the surface to earn it. The diorama would be supplemented with interpretive panels and possibly hands-on mining equipment. It could also include a display case of artifacts.

Cost estimate: \$30,000–\$60,000, based on interior version of the exhibit.



Perspective sketch of museum exhibit: walk-in coal mine diorama

## **8. OFFICIAL STATE HIGHWAY MAP OF WYOMING**

We recommend approaching the Wyoming Department of Transportation to request placement of the *Black Diamond Trail* on the state highway map.

## **9. DESIGN STANDARDS AND RECOMMENDATIONS**

Include the Historic Mine Trail and Byway program logo and Wyoming State Historic Preservation Office logo on all signs and printed media. Once a template has been designed for one of these media, use it as the basis for other graphic and media design to provide a consistent image and identity for the *Black Diamond Trail*.

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Miners grouped inside a Sheridan-area coalmine, courtesy of Sheridan County Museum

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Sheridan Community Land Trust’s Historic Working Group

Members of the Sheridan community who attended the Public Meeting on July 31, 2011, including, among others: Mike Kuzara, Bill Menlock, Billie Little, Pat Smith, Leon Washut, Karen Ballek, and others previously named.



Subsidence over Monarch mine (looking down), July 2011, by TMDA

## FOR MORE INFORMATION

For more information on the *Black Diamond Trail*, please contact the following:

State Historic Preservation Office  
Monuments and Markers Program Coordinator  
(307) 777-7697



Sheridan Community Land Trust  
Executive Director  
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