

THIRTY YEARS OF COAL MINING



United States Fuel Company
Newhouse Building, Salt Lake City, Utah

JULY, 1946

UNITED STATES FUEL COMPANY

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Company Officials

| | |
|---------------------|----------------------------|
| N. W. Rice..... | President |
| F. S. Mulock..... | Vice President |
| P. L. Shields..... | Vice Pres. & Genl. Manager |
| K. P. Burbidge..... | General Sales Manager |
| James McKim..... | General Superintendent |

★

Sales Representatives

W. T. Beveridge
C. P. Crawford
K. S. Hillis
G. H. Holmes
R. T. Webb

| | |
|-----------------------------------|--------------------------|
| The Continental Coal Company..... | Spokane, Washington |
| Dakota Sales Agency..... | Rapid City, South Dakota |
| Grant & Company..... | Los Angeles, California |
| Pacific Coast Coal Company..... | Seattle, Washington |

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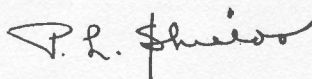
Special acknowledgment is accorded to Mr. C. A. Greenwood, Chief Chemist of the Midvale Plant of the United States Smelting Refining and Mining Company, who took the photographs which have been reproduced in this booklet.

TO OUR FRIENDS AND PATRONS:

Herewith is presented "Thirty Years of Coal Mining" which we hope will be of interest to you. It has been prepared as an historical record of the efforts of our Company to be progressive and, through mechanization, to offset as far as possible, the greatly increased cost of labor in order that coal prices may be held at reasonable levels. The production and distribution of coal is one of the most basic of our national industries, and we take pride in our contribution to that industry. Likewise, in retrospect, we take pride in our individual accomplishments through mechanization.

We hope that "Thirty Years of Coal Mining" will serve to further impress you as to the vital and economic value of our Western coal industry, and will solicit your sympathetic understanding of our efforts to provide the most reliable source of heat and energy at the lowest possible cost.

Cordially yours,

P. L. Shivers

GATEWAY TO UTAH COAL FIELDS



Main line D. & R. G. W. Railroad and Utah Railway—winds up through Price canyon.

THIRTY YEARS OF COAL MINING

Early History of Coal Mining in Utah

The story of the discovery of coal in Utah and the early attempts to mine it are somewhat obscured by the glamour and excitement incident to the discovery of gold in California as the events occurred at about the same time.

Father Escalante may have seen coal in what is now Utah in 1776 while crossing this region in search of an easy route to the Pacific Coast. From an economic point of view coal was first utilized by the early Mormon settlers in Sanpete Valley in 1849 and 1850.

Utah historians report that the pioneers had no sooner settled in the Great Salt Lake Valley than they began a search for coal and iron. This search was stimulated not alone by the need for fuel but also by the realization that simple tools and hardware had to be made by the settlers themselves if the great expense and time of transporting heavy commodities across the plains from Missouri River points were to be avoided. This made it necessary to find and develop iron ore and suitable coal deposits. Prizes were offered to encourage the search and an abundance of coal was discovered by the close of 1850.

The Wales Mine in Sanpete County had the distinction of being the first coal mine to be opened in the State. It is said that this mine opened in 1855.

In about 1864 or 1865 the first serious attempts were made to develop the precious metal deposits of the State and this led to a demand for coal as a source of power. There was also an ever

increasing demand for coal for domestic use and for forge and small iron ore smelting. From this time on and with the building of railroads the coal industry in Utah began to expand. During the succeeding years other coal deposits were discovered. There are ten known coal fields in Utah which, according to the United States Geological Survey, cover 13,130 square miles of land containing coal. The Wasatch Plateau coal field and its extension east of the Price River known as the Book Cliffs field are commonly referred to as the Carbon County Coal Fields. Together they form the largest and most productive coal area in Utah. All of the large commercial mines presently operating are in these fields.

The history of the Wasatch Plateau field is of particular interest as it is in this field that the United States Fuel Company has centered its coal mining activities for the past 30 years.

Coal was first discovered in the Wasatch Plateau field in 1874 and mining was started the following year when the Fairview Coal and Coke Company opened a mine in Huntington Canyon and established a settlement called Connells-ville. By 1876 coal was being mined from several openings in Coal Canyon and Huntington Canyon. A railroad was surveyed from Sanpete Valley into this section but it was never built. This mine operated a few years and some of the coal was coked at Connellsville but the cost of hauling it to Springville by wagon proved too great and the mine and settlement were abandoned. The first large mine to be operated in the field was the Mud Creek

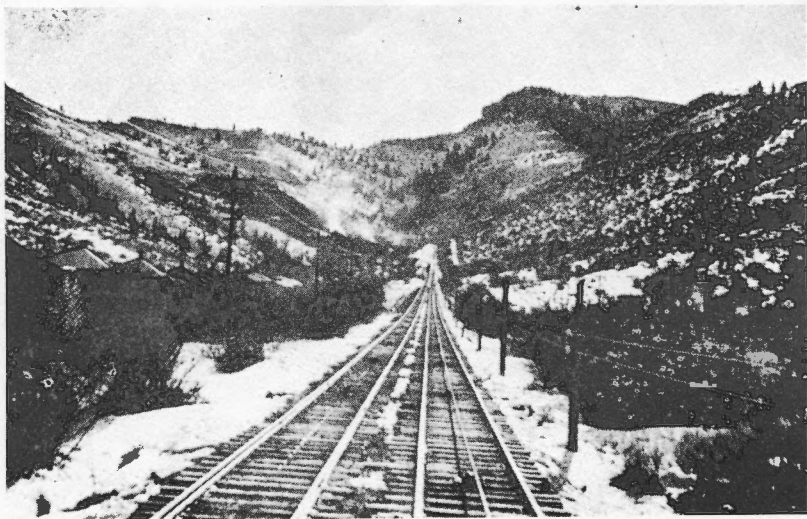
Mine of the Utah Fuel Company which opened in 1878 in Pleasant Valley three miles south of Scofield. In 1884 the Winter Quarters Mine was opened in Winter Quarters Canyon and the Union Pacific Mine No. I was opened by the Pleasant Valley Coal and Coke Company. Both mines were abandoned a few years later. The Clear Creek Mine at the head of Pleasant Valley was opened in 1899.

The first large mines on the east front of the Wasatch Plateau were opened in the three years of 1909 to 1911 in Miller and Cedar Creek Canyons. Years

railroad was extended up Cedar Creek Canyon to the Mohrland Mine which was owned and operated by the Castle Valley Coal Company which was also organized in 1907. In 1911 the Black Hawk Coal Company opened the Black Hawk Mine on the mountain side a thousand feet above the camp which has since grown into the beautiful town of Hiawatha.

United States Fuel Company Organized

The United States Fuel Company was organized in 1915 and



King Mine Tramway looking up to the Portal.

later these operations were consolidated into one mining operation, called King Mine which is the source of the presently well known King Coal. The Consolidated Fuel Company, organized in 1907, was the first to mine coal in this area. It built the old Southern Utah Railroad from Price to Hiawatha and opened the mine which became known as West Hiawatha. A year later the

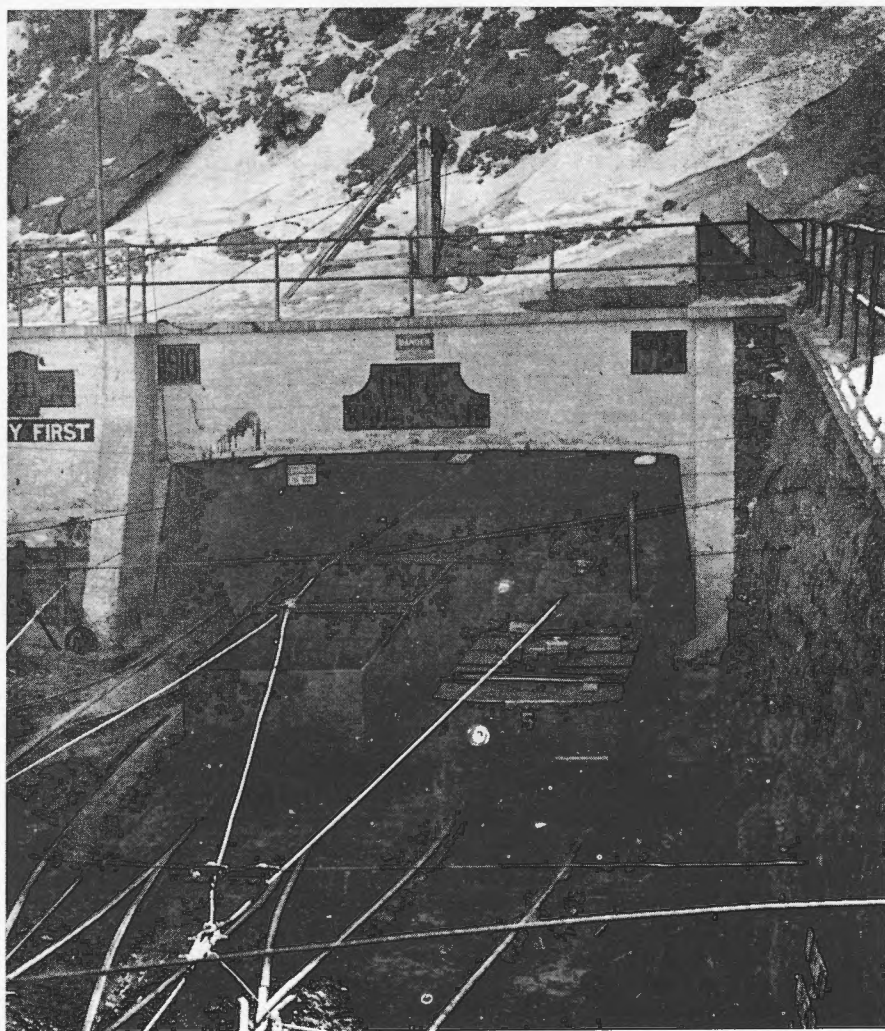
commenced operation in 1916 when it took over the properties of the Consolidated Fuel Company, Castle Valley Coal Company, Black Hawk Coal Company and the Panther Coal Company at Heiner, Utah.

To provide adequate transportation facilities for the coal mines developed on the east front of the Wasatch Plateau, the Utah Railway was organized and com-

pleted in 1914. From the start it has always provided excellent transportation for the coal mines of the United States Fuel Company and its predecessor companies as well as to all other companies tributary to its lines.

By improving methods of extraction and with the transportation facilities provided by the Utah Railway, the United States

Fuel Company soon became one of the major coal producers of the State. Since the Company was organized its mines have produced over 24,000,000 tons of coal, a little over twenty percent of the total commercial production in the State of Utah which to date and for the same period has amounted to approximately 119,000,000 tons.



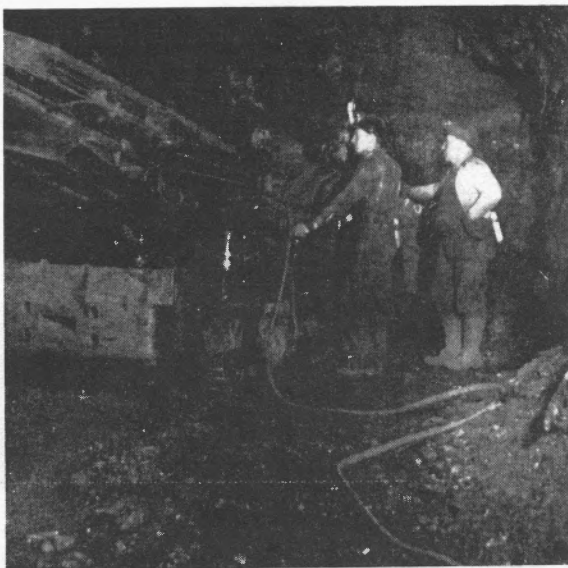
Portal on a busy afternoon.

Mechanization of Mines

Through the years, coal mining companies everywhere have had to make many adjustments to meet the vicissitudes of their business. The United States Fuel Company was no exception. The West Hiawatha Mine was closed in 1926 and for a time the Company's operations were concentrated in the Black Hawk, Mohrland and Panther Mines. In the late twenties and early thirties many coal markets were invaded by gas and oil. To meet this stiff competition early in 1930 the Company started to completely mechanize its mines. Mechanical loaders and large combination cutting and drilling machines were purchased and in a period of a few years the mines were completely mechanized. In 1931 the company leased its Panther Mine and closed it in 1937. The Black Hawk Mine and the Mohrland Mine, heretofore known as King I and 2 Mines, were consolidated in 1939 into the present King



Ten-ton shuttle car—Oria Ivie, driver.

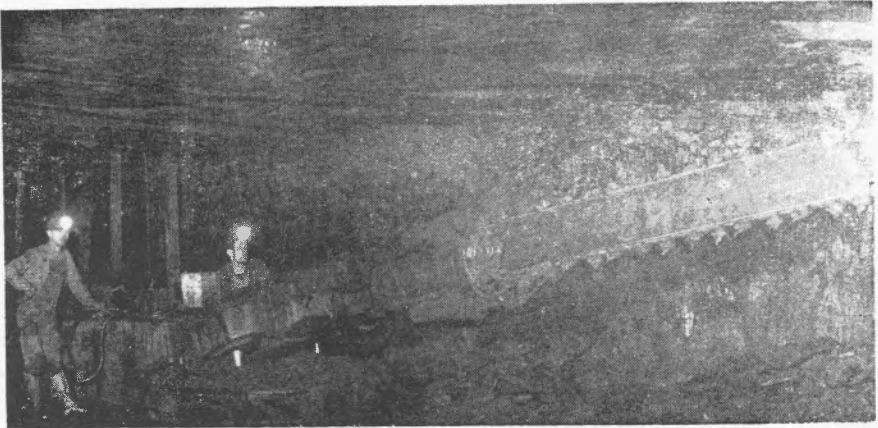


Clarence Fosen and Fred Pallaro prepare to move Loader into new entry.

Mine by connecting them with a haulage tunnel. A modern preparation plant for the processing of the coal from both mines was completed at Hiawatha in the same year.

From 1939 until we entered World War II, coal mining at Hiawatha followed the pattern of the few previous years. The war-time shortage of additional experienced labor and the government restrictions on the manufacture of equipment impeded the Company's efforts to meet the increased demand for coal. Early in 1944 the company decided to further modernize its mining operations through the use of shuttle cars. Although delivery of this equipment was long delayed, in the past few months during which shuttle cars have been used, all production records in the district have been broken at King Mine for any single month's operation.

Coal mining at King Mine today is truly a modern operation in contrast to the very simple



Cutting Machine—Ernest Locke and Glen Munson operators.

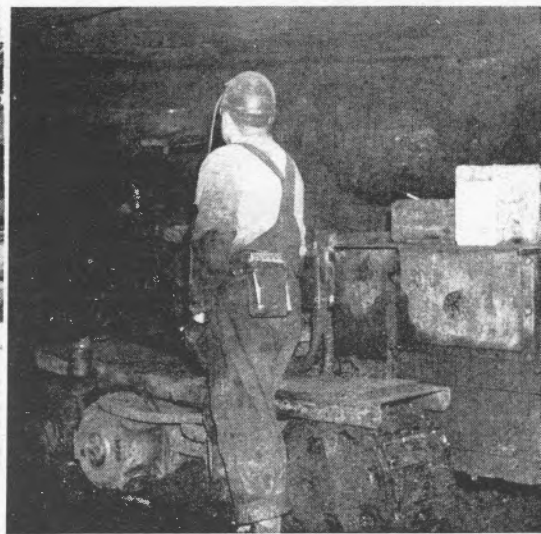
method used in the early days. The early operators started mining from the outcrop and as the openings became more extensive they would drive the team and wagon into the mine and load it directly at the coal face. Some of these old workings are still open near the portal of the old Mohrland Mine in Cedar Creek Canyon. Mines in those days were opened

by the easiest means possible and when difficulty was encountered the work was abandoned and a new place was started. All the mining was done by hand. Natural ventilation was depended upon.

Today, in sharp contrast to those earlier days and after 30 years of progress in methods and equipment, King Mine, with miles



Moving coal train on main line haulage
—Howard Williams, motorman.

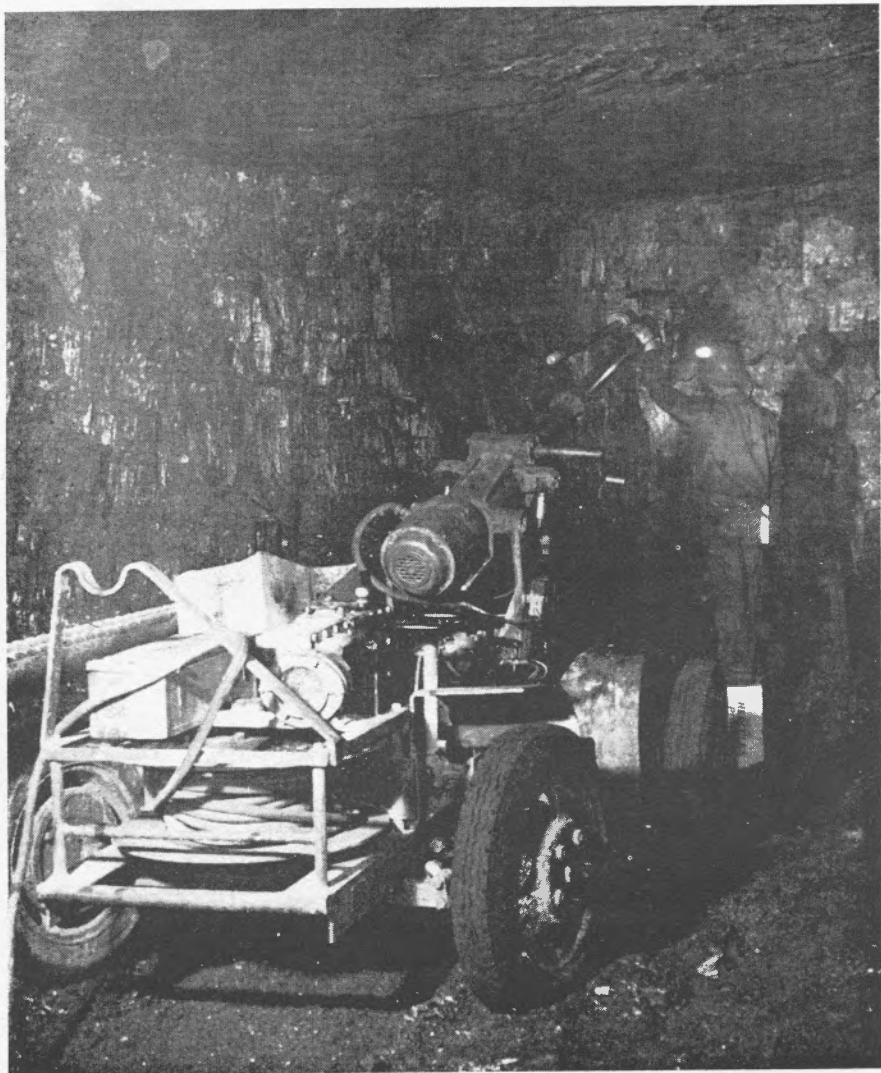


"Shearing Top," LeRoy Davis, Cutting
Machine operator.

THIRTY YEARS OF COAL MINING

of underground workings, is somewhat like a large city. Haulage ways are laid out and designated much in the same way as city streets. Electric power systems, water pipe lines, and telephone lines follow the haulage ways into every working entry. All equipment in the mine is com-

pletely electrified. Huge ventilating fans circulate fresh air thru the entries into every working place. The haulage ways are laid with tracks over which large electric locomotives haul their fifteen car trains of coal from the loading points to the surface. A dispatcher regulates the movement



Drilling coal in a room—Electric Mobile Unit—Jerry Lodeserto and Loran Anderson operators. The holes being drilled by these men are later charged with explosives.



George Rogers and Roy Barkley, drillers, set up to drill top coal.

of the coal trains over the miles of underground track by telephone in much the same way as the train dispatchers do on a large railroad.

Up in the working places the coal is undercut and sheared by caterpillar mounted cutting machines. Each of these machines is equipped with a long cutter bar. Cutting bits set in a chain travel around the edge of this bar and as

it is forced against the solid coal it makes a cut very much like a saw biting its way into a log. The coal is then drilled, preparatory to blasting, with new, modern electric drills mounted on pneumatic tired electric mobile units. The blasting is done electrically by men certified as to their competence by the Industrial Commission of Utah. When the coal has been blasted, mechanical loaders



Loading holes with explosives preparatory to blasting. Joe Otterstrom, tamper.

are moved up to the pile of blasted coal and their huge claws scoop up the coal and load it into the shuttle cars. They can load a ten ton capacity shuttle car in one and a half minutes. The recently acquired shuttle cars are more than twenty-one feet in length and eight feet wide and are equipped with huge pneumatic tires. They are operated by electricity, travel five miles an hour and are capable of unloading their ten tons in seventy seconds. They

haul the coal from the loading machines to the nearby underground railroad track where it is unloaded, either directly into mine cars or into a hopper from which the mine cars are loaded by means of a conveyor known as the Loader Head which is also a new development in mining machinery. The mine cars, each with a capacity of approximately five tons of coal, are made up into trains of fifteen cars and then start their journey to the main



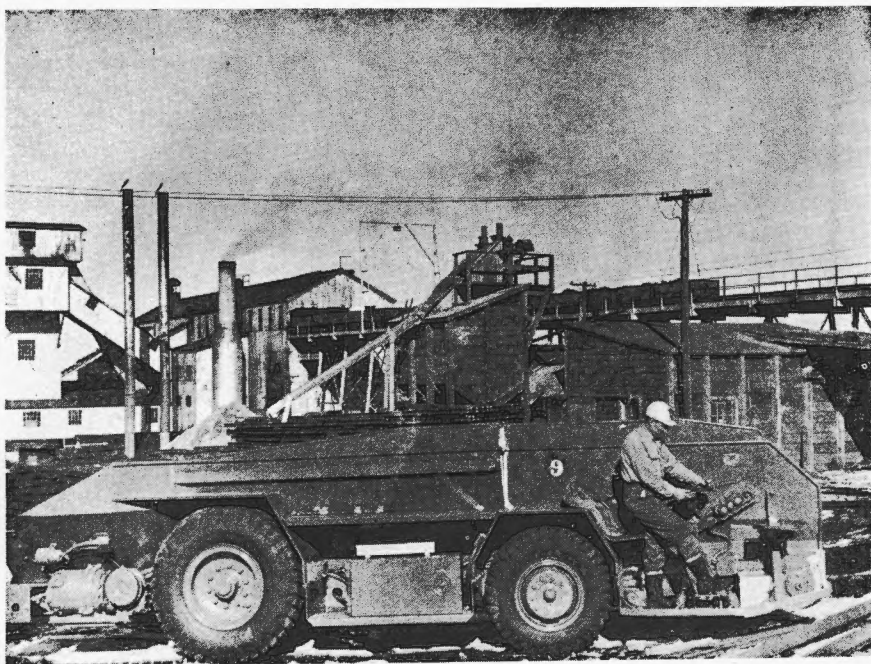
Loading coal in a room—Tony Bussetto, operator.

mine portal. A mammoth double drum hoist is located at the portal of the mine and at the upper end of nearly a mile long double track incline. The lower end of the incline terminates at the unloading bridge of the preparation plant.

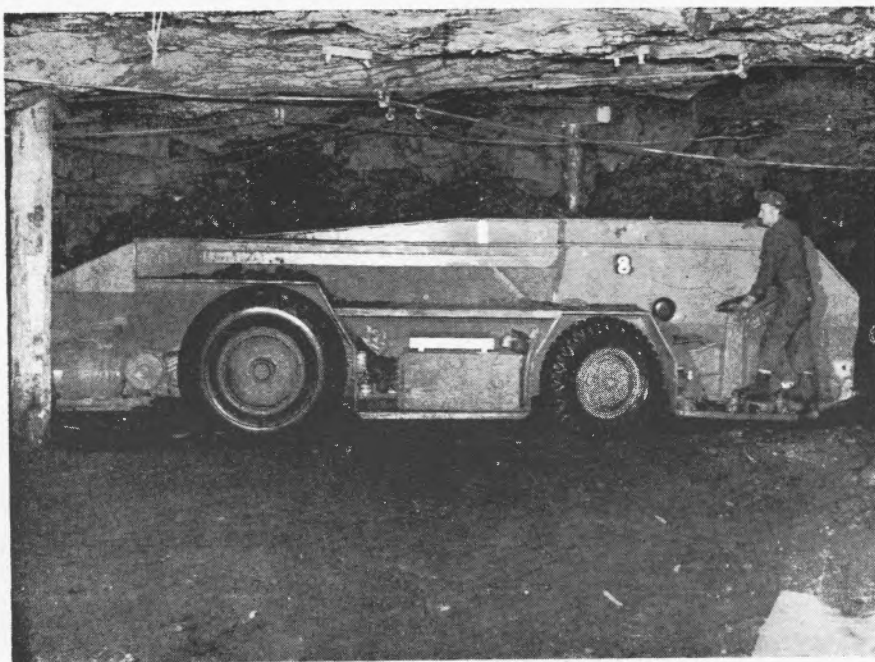
When a loaded train of coal reaches the mine portal, it is attached to one end of a $1\frac{5}{8}$ " steel cable which is over a mile long and which passes around the drums of the hoist. A train of empty cars at the bottom of the incline is attached to the other end of this cable. When all fastenings to the cables and between cars have been carefully checked, a signal is given to the Hoist Engineer who sets the hoist drums in motion. The loaded train goes down the incline to the preparation plant while the train of empty cars is pulled up to the mine for more coal.



Loaded shuttle car traveling to loader head.



**New Shuttle Car being tested prior to taking it into the mine—
T. C. Jackson, General Mine Foreman, at the controls.**



Loaded Shuttle car in operation—Joe Dallis, driver.

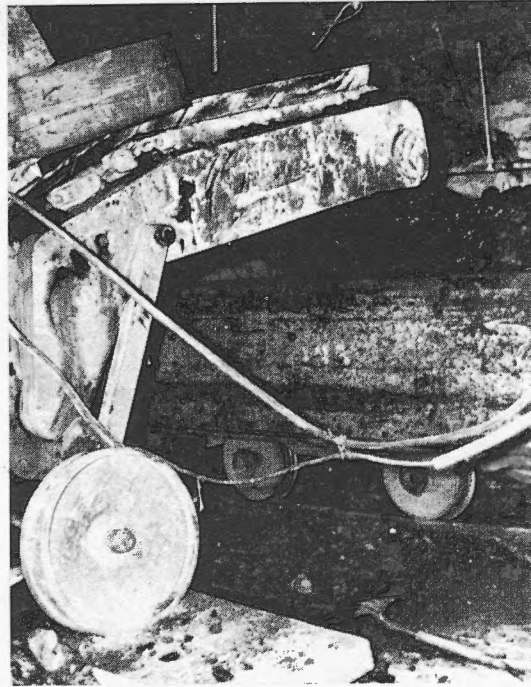


Byrd Gordon, "Dispatcher."

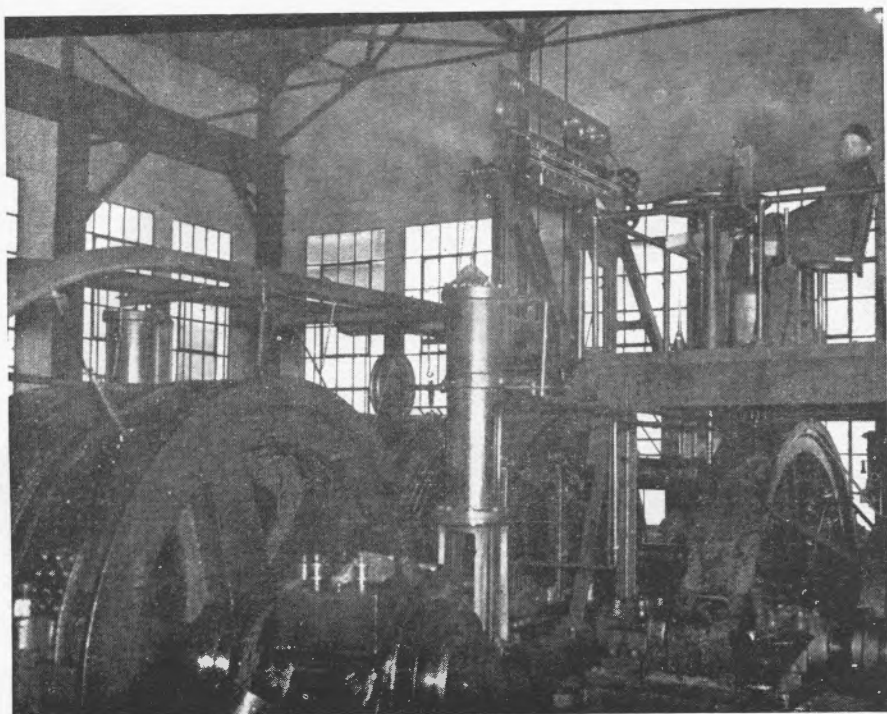
There are many other interesting operations in King Mine and while some do not directly contribute to the actual production of coal, they are necessary functions in the uninterrupted and safe operation of a modern coal mine. One of the most important is the ventilating system. Main and branch air courses are planned and laid out so that fresh air is continuously supplied to all working places in the mine. Two large exhaust fans located at points where the mine reaches the surface draw the used air out of the mine through to the regular air passages known as "return-air courses." Many concrete stoppings (walls) are erected in the various mine openings as they are extended to control and direct the flow of air. Much timber

is regularly used in the mine to support the roof where necessary. Large and small electrically driven pumps provide the working places with water and draw the excess seepage water out of the mine. Motor generator sets, installed in fireproofed rooms underground, transform the high voltage A.C. electric current into D.C. current at a lower voltage to provide power for mining machinery and haulage equipment.

Somewhat behind the scenes, but still playing a vital part in the operation of King Mine, are the repair shops and repair crews. Mechanized coal mining would not be possible without skilled mechanics, shop equipment and tools to keep the intricate mining machines in good operating condition.



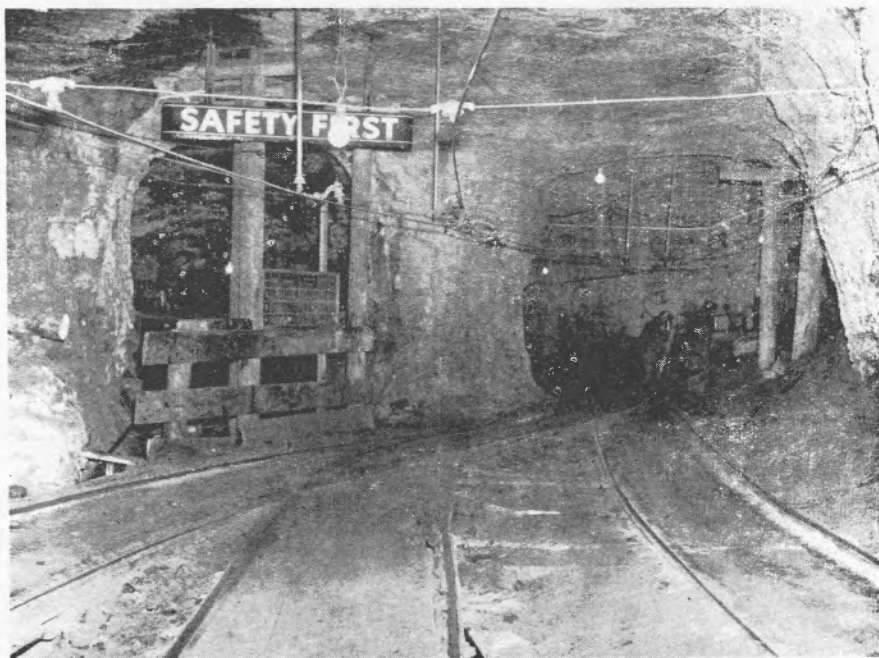
"Loader Head" elevator transfers coal from shuttle car to mine cars.



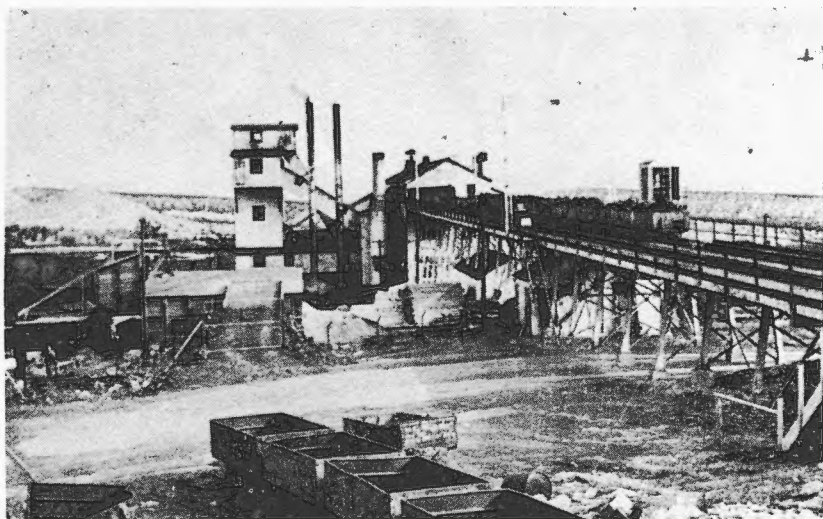
Main Hoist at Portal of Kingmine—John Judi in Operator's seat has worked 21 years for U. S. Fuel Company.



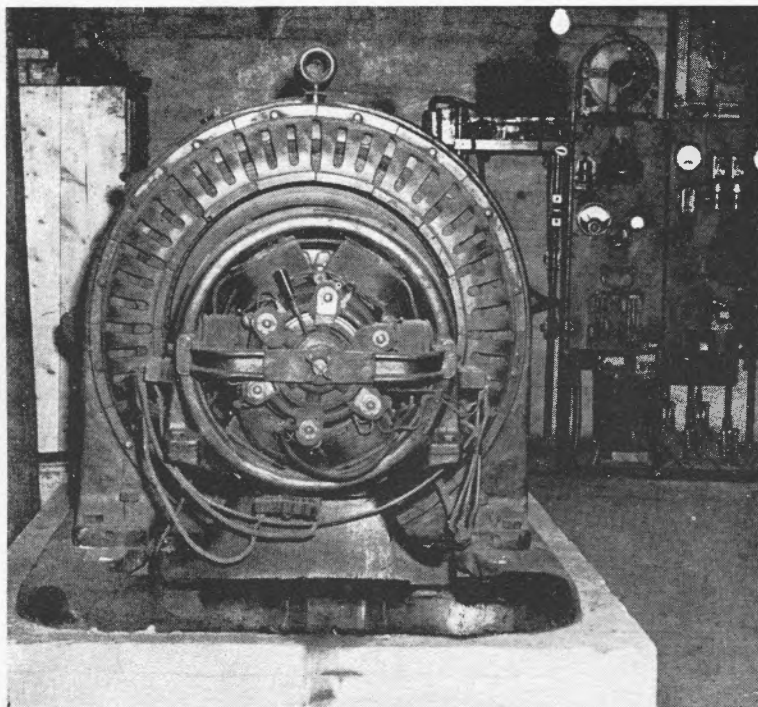
Coal Train being lowered down tramway to Preparation Plant.



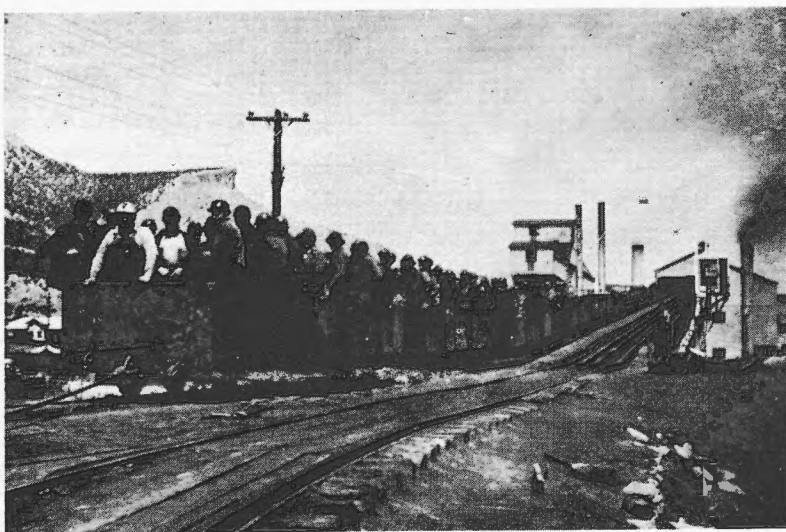
**Entrance to Main Haulage Track just inside Portal of King Mine—
Neon sign asks for "Safety First."**



The bridge—end of Tramway from mine portal to Preparation Plant.



Motor Generator set underground.



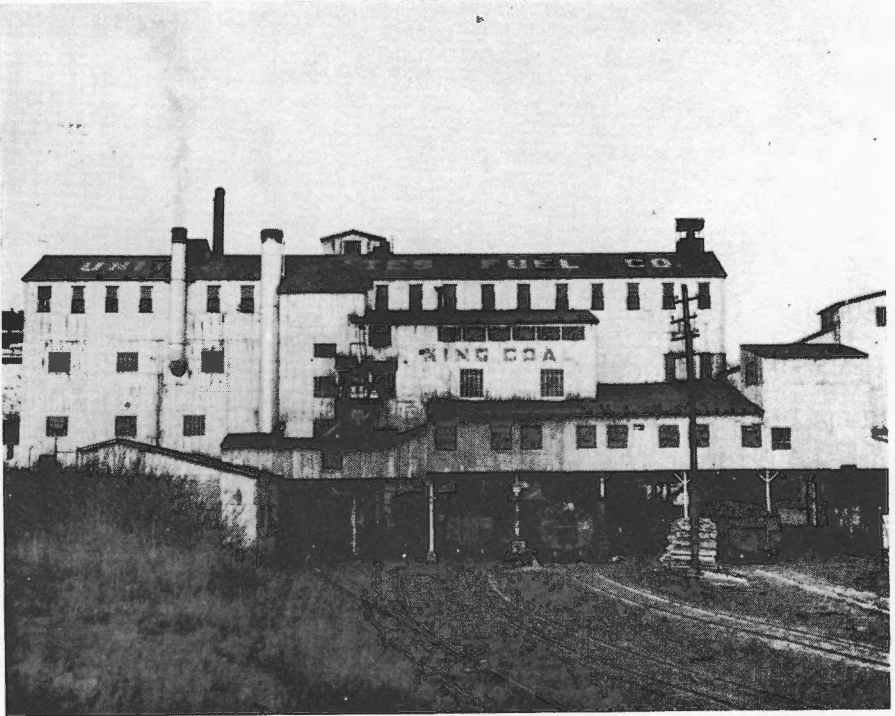
Man trip.

Coal Preparation

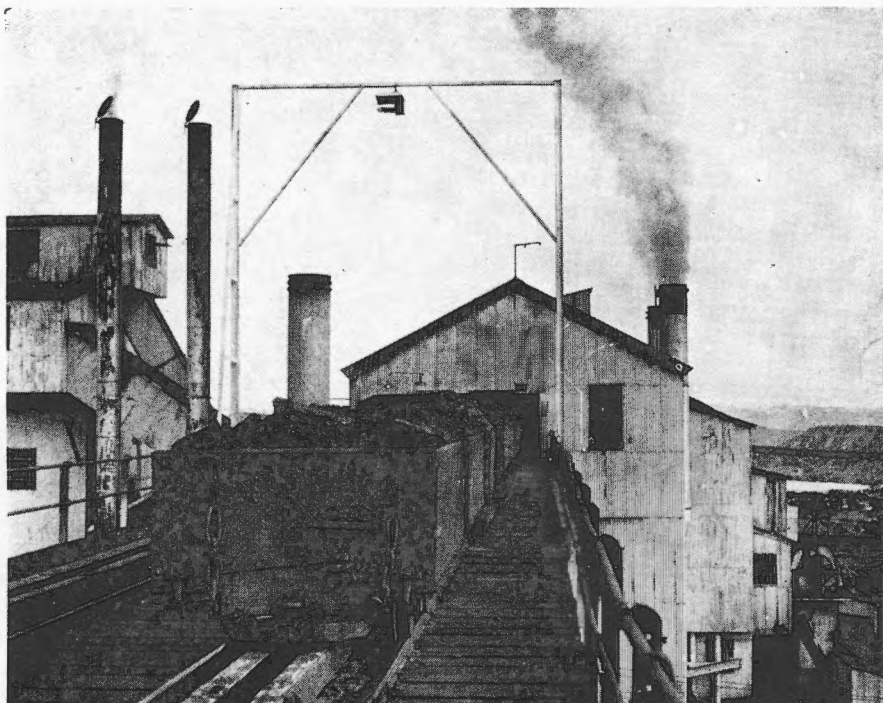
Since the earlier days of coal mining, when the preparation of coal for market consisted of loading the coal in the mine with a fork to eliminate the "fines," much progress has been made in coal preparation. Soon after the railroads were built into the coal fields and mining on a large scale was started, improvement in coal preparation began. One of the predecessor companies built a plant as early as 1915. It consisted of a few sizing screens and conveyors for loading the various sizes of coal. Later, attention was given to sorting the bony out of the large sizes of coal. Several other plants, modern for their time, were built by the United States Fuel Company at different locations after 1915. The rapid

development of the stoker for domestic heating in the early thirties increased the market for a high grade slack coal. To meet this demand, the United States Fuel Company began the construction of a preparation plant at Hiawatha in 1937 which was completed in 1939. It is today one of the most modern coal processing plants in the West.

Every ton of King Coal from King Mine passes through this plant. The loaded mine cars enter the plant on the top floor where they are run into a revolving dump and are emptied into a hopper which feeds the coal into a large breaker. From here the coal flows through a maze of shaker screens, hoppers, and conveyors until it is segregated into seven different sizes. The lump coal



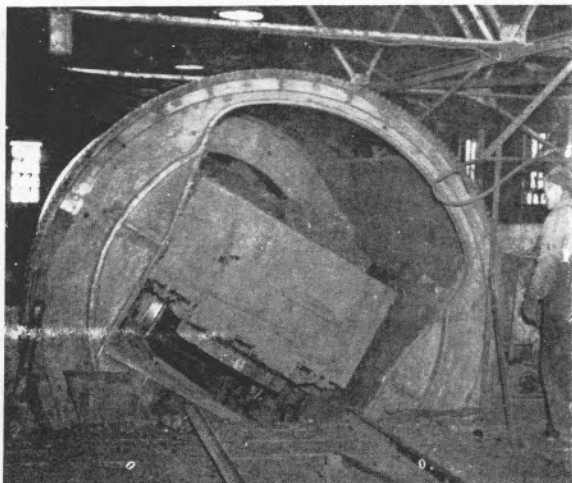
King Mine's modern Preparation Plant completed in 1939.



Train of coal entering Preparation Plant on dump floor.

passes over picking tables where it is closely inspected and all pieces containing bony (rock) are culled out. All coal less than five inches in size is conveyed to the coal washer, commonly called the wash box, where by agitation and gravity the coal is washed and the impurities separated from it. After this washing and cleansing all sizes of coal under 1- $\frac{5}{8}$ inches pass through large dryers. The dried coal is conveyed to the blending plant where it is again separated into different sizes and placed into bins. From these bins the flow of coal is controlled by reciprocating feeders which are adjustable as to the rate of feeding the coal. From the feeders the coal drops onto a conveyor. By adjusting the feeder rate any desired blend of sizes can be provided. This

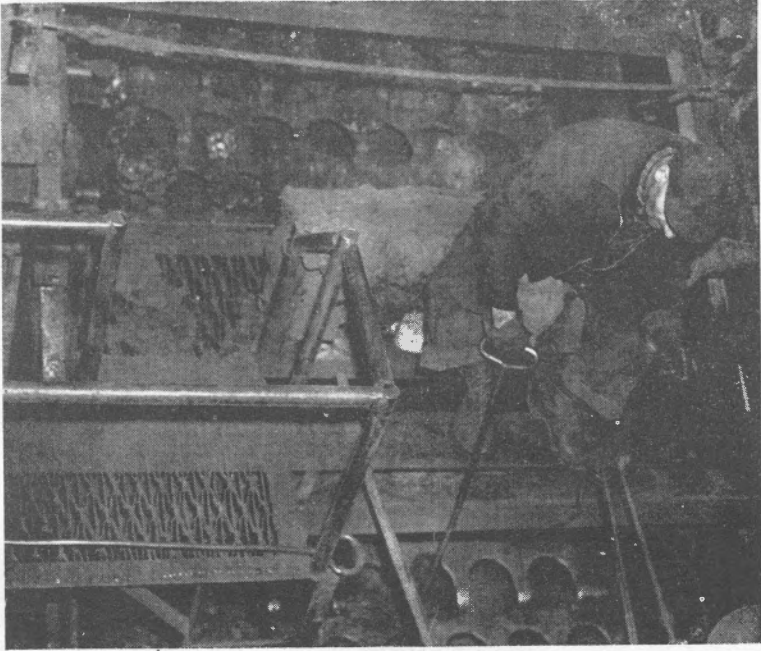
enables the Company to meet the most exacting demands of the discriminating buyer and places the



Rotary Dump, Preparation Plant—
Jesse Huntington, operator.

Company in a position to provide coal for practically any purpose. Situated at the base of these bins are also the sprays which provide the hot oil used to allay dust. Each size is sprayed as the coal emerges from its respective bin

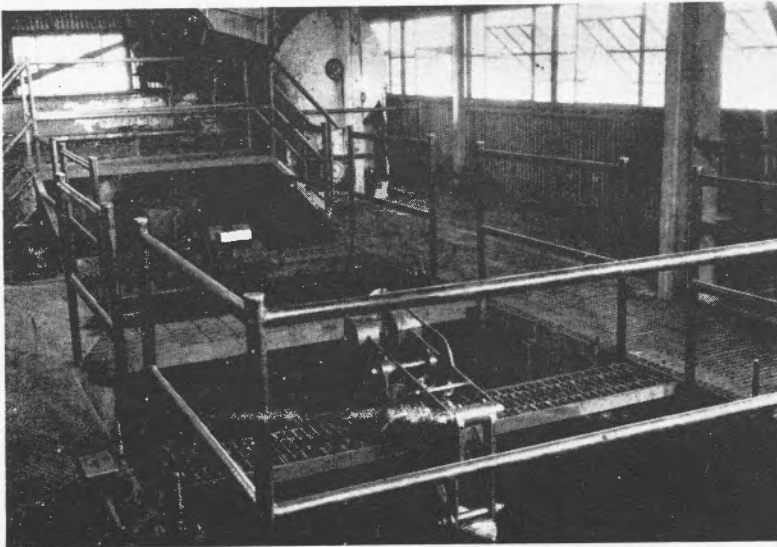
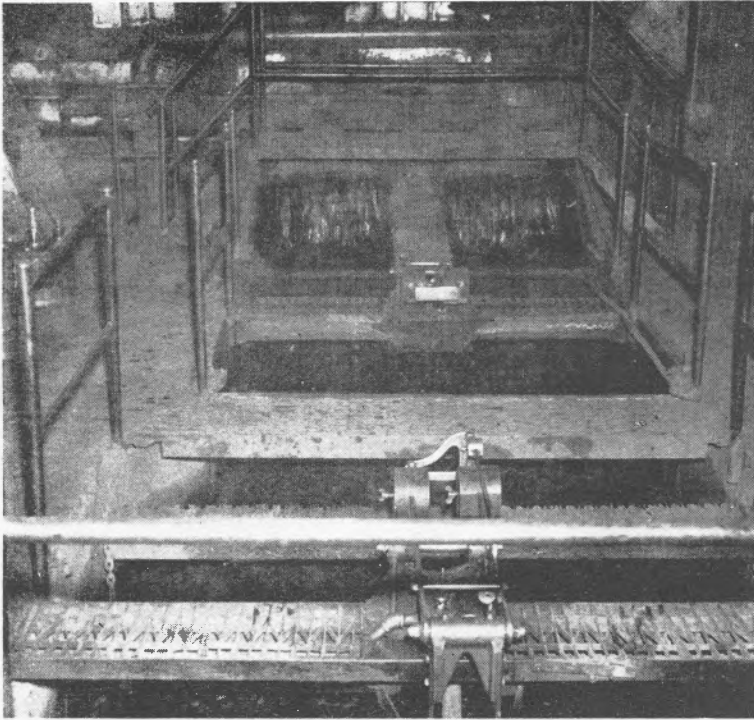
so that the slack blends are not only blended as to size consist but they are also blended as to dust proofing. After it has been thoroughly mixed it is loaded into railroad cars and weighed for shipment.



Above: Lump sizing screen — keeping the lumps from lodging in the screen is Nick Marakakis, employed by the company for 26 years.

Right: "Picking Bony" at the Preparation Plant. Left to right: Leo Falsone, George Falsone, Lorgen Brooks, and Bill Needles.

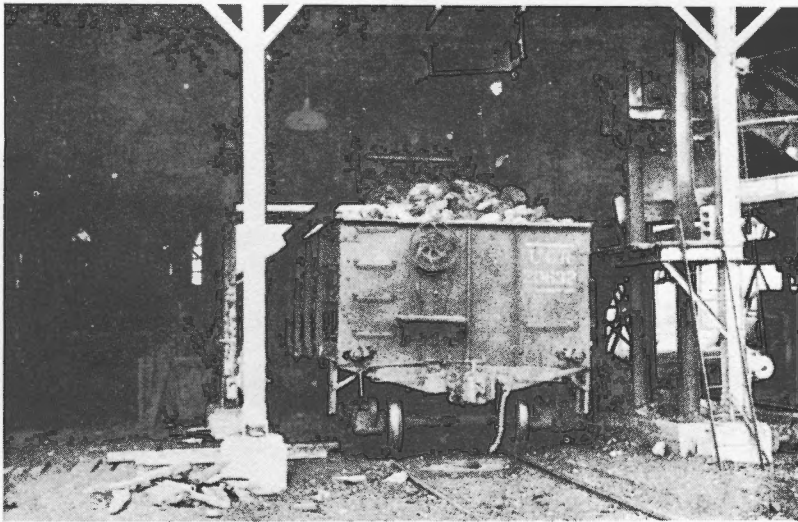




Two views of the "Wash Box." This machine washes all coal under 5 inches and removes the bony (rock) from the coal.



Loading car of nut coal—prepared and ready for market.



Lump coal being loaded for shipment.

Coal Has Many Uses

Coal heats more American homes than all other types of fuel combined. Coal, long ago, entered into the field of medicine, its most recent contribution being the sulfa drugs. Coal is also

the source of many rich colors for paints and dyes, of 150,000 chemical compounds including petroleum products, gasoline, synthetic rubber, nylon, vitamins, and saccharin—500 times sweeter than sugar.

HIAWATHA



Hiawatha looking Northeast.

Practically all of the large mines have their own towns near by. These have been greatly improved with the years so that some are now more modern than the average country town. The

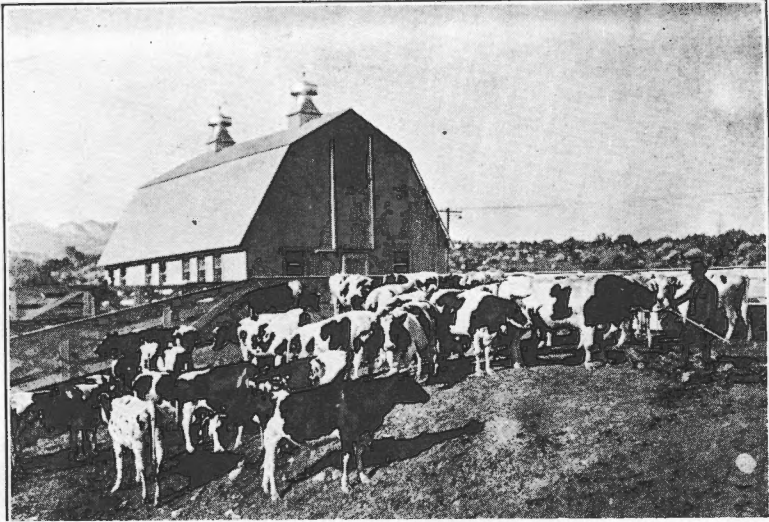
United States Fuel Company has long recognized the value of good living conditions and as a result Hiawatha has always been one of the most modern and best maintained mining towns in the dis-



Federal Public Housing Project—modern furnished apartments.

trict. Well laid out, its comfortable frame homes, modern school, church and recreational facilities make it attractive to new-comers and old-timers alike. Many of the residents are ardent gardeners. During the summer months their gardens blossom forth with beautiful flowers and shrubs. During the war there were also many

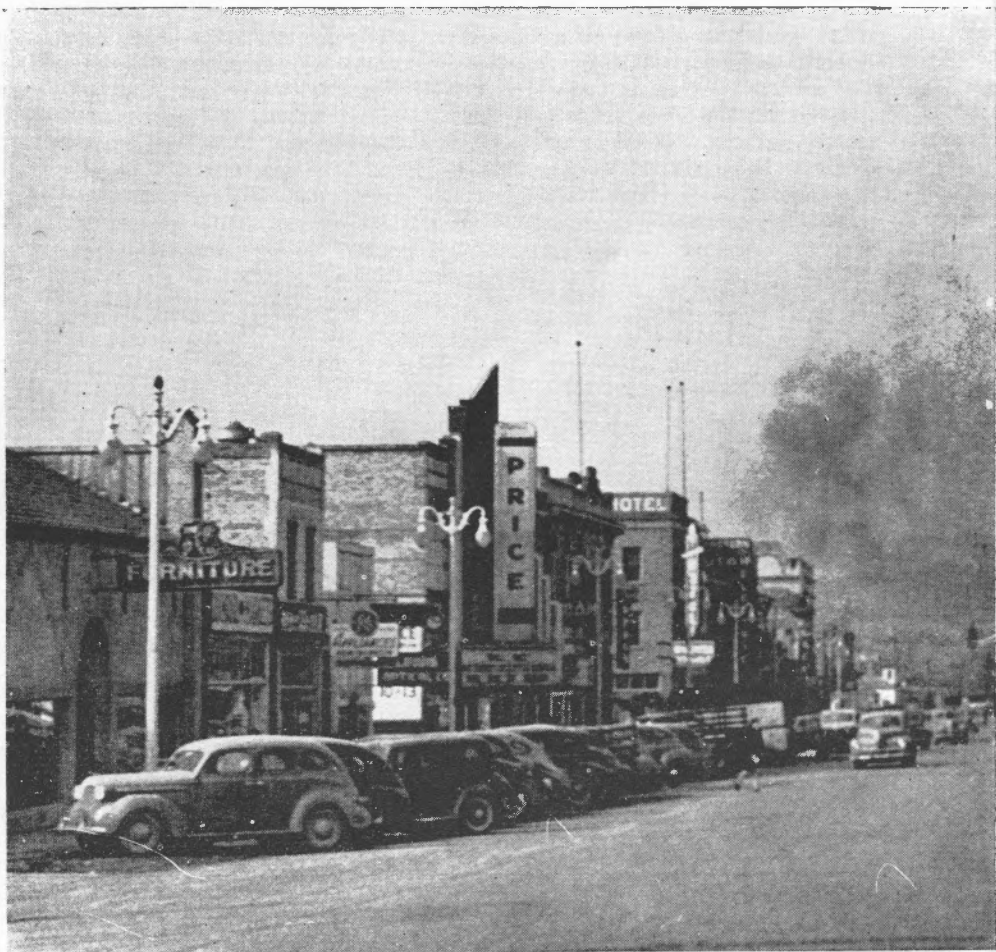
successful victory gardens. To provide housing for new employees during the war period, the Federal Public Housing Authority constructed 120 housing units in Hiawatha. Although only designed for emergency housing, this project is still providing well furnished and comfortable homes for many new employees.



Millerton Ranch dairy farm provides milk for Hiawatha residents.



Modern school building at Hiawatha.



Main street,

Coal Has Helped Build Utah

Utah's coal deposits have contributed much toward the building of the State and the West. The growth of the metal mining and smelting industry, the western steel industry, the railroads and many other industries has been due to a large extent to the availability of good quality coal in Carbon and Emery Counties. The coal industry has also built

many enterprising communities. Today, Price, leading city in Carbon County, ranks fifth in size and wealth of the State. Price is an up-to-date enterprising city offering excellent shopping facilities for the surrounding area. Carbon County's fine schools have to a large degree, been made possible by the coal industry. A modern high school and new Junior College at Price in addition to splendid grade schools and junior high schools throughout the dis-



Price, Utah.

trict provide the same fine educational facilities as are found elsewhere in the state.

Utah's coal industry has as important a role in the future development of industry as it has had in the past in helping to build the State and the West. The expansion of our industrial economy is dependent to a large extent upon economical production of the high quality coal found in Carbon and Emery Counties as a

source of fuel and power.

The welfare of the people in the State is also linked with the future of coal mining. The enterprising communities built by the coal mining industry can only maintain their high standards if the coal mines can continue economically to supply the west with a high grade fuel which can be used to turn the wheels of industry and heat the homes of our people.

Coal and the Men Who Mine It Went to War

While they were not attired in the uniform of the soldiers at the front lines and their task far removed from the scene of actual combat, nevertheless, during our war years the coal miners played the same important role as all other workers in war industries. Locally the coal miners working at King Mine, Hiawatha, contributed admirably to the war-time production of coal. Their production efforts during the emergency period, helped to fabricate the steel that went into our ships and guns and other implements of war. They also helped provide fuel

for America's vast system of railroads. The coal they produced furnished much of the power for many of the industrial plants in which the many instruments and tools of war were produced. Indeed, ultimate victory could not have been achieved without the enormous energy created through the production of coal.

Sixty-five percent of King Coal produced during the war went directly or indirectly into the furtherance of the war effort. The remaining thirty-five percent was distributed equitably among King Coal dealers to provide heat and comfort to thousands of homes.



Mechanical Department Supervisors: Standing: Joe Parmley, General Master Mechanic and Lewis Finley, Master Mechanic. Below: Paul Veillard, Master Mechanic and Ralph Hartman, Shop Foreman.



Mine Supervisory Crews: Top, Front Row (left to right): Bernard Christensen, Tom Greenhalgh, James Catterall, James McKim, General Superintendent; Leonard Bury. Back Row (left to right): Archie Etzel, Q. Anderson, John Barnett, Perry Christensen, Virgil Olsen, John Felton, Don Snow, James Reese.

Bottom: Front Row (left to right): Ernest Bishop, Shef Gordon, Del LeMaster, Tom Jackson, General Mine Foreman. Back Row: James Olsen, Gladwin Olsen, Charlie Larson, Merrill Bearnsen, William Green. Clarence Langford was not available when picture was taken.



Office and Engineering Staffs: Front Row (left to right): Lorraine Weiss, Sylvia Maragakis, Helen Stifas, Pauline Pappas, Grace Orphanakis. Back Row (left to right): Walter Abplanalp, James Shipley, James Reese, S. H. Sherman, Dan Garber, Jr., John Reed, Lee Kirk, Paul Weiss, Steve Pazell, Dan Morgan. Absent when picture was taken, Russell Ramey, and Preparation Plant Foremen DeWayne Christensen and Dan Garber.

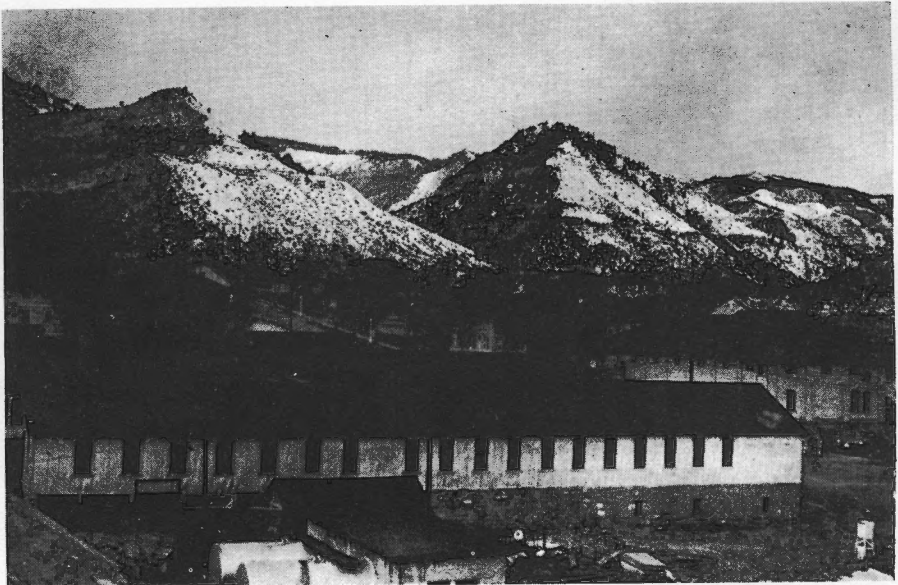


Warehouse Crew: (Left to right): Mercer Reed Austin, Wallace Safely, Donald Firley, Byron Burmester.

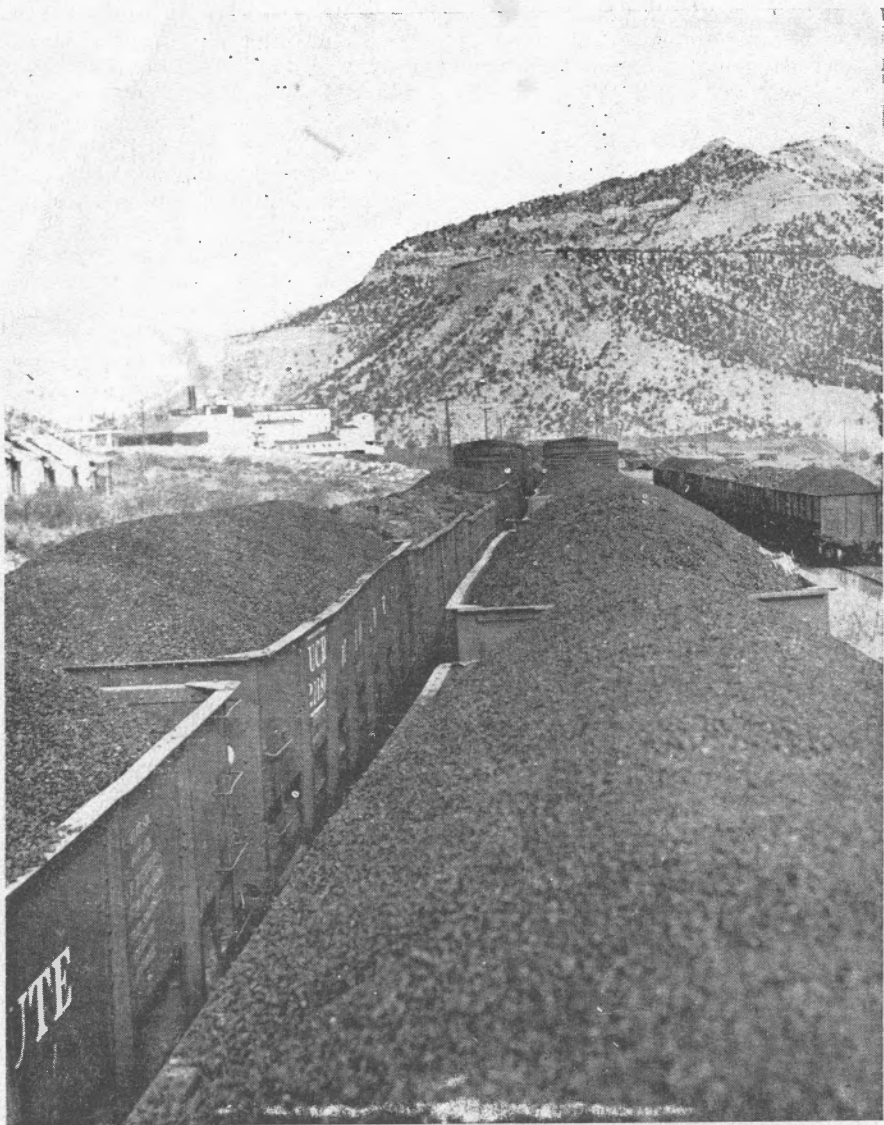
KING COAL — A GOOD FUEL

United States Fuel Company believes that modern mining procedure, improved preparation and an aggressive marketing policy, including combustion and consulting service for its dealers, has resulted in high and favorable acceptance of King Coal. The Company believes this has been accomplished and bases its belief on the favorable replies made to a questionnaire recently mailed to dealers in our various marketing areas, indicating that 100 percent of our customers replying, felt that their franchise for the sale of King Coal was a real asset to their business during the war years; that United States Fuel Com-

pany's service and general handling of orders were highly acceptable; and that not only was it revealed that the quality and preparation of King Coal were maintained during the entire period of record production, but also that the general popularity of King Coal had increased immeasurably during that time. United States Fuel Company is continually setting new records of production, for an ever increasing market of King Coal users who are demanding the benefits of this all purpose fuel, its comfort, dependability, economy—a coal that will serve them well not only in time of war but in years of peace!



Warehouse, Hotel, Mine Office and Price Trading Co. Store at Hiawatha.



Cars of prepared King coal awaiting transportation to market.
