

## *Fueled Arizona mines and smelters*

Mining towns die hard, it is said.

Dawson, New Mexico, now 30-years razed, may prove that adage true before the final history of that hard-living coal camp is penned.

Dawson is a microcosm of history, exemplifying the cyclical ebb and flow of the direction of society.

Once a forward-looking community at the wellspring of western development, it now exists but in the memories of those who once lived there and who can, upon returning, rebuild the town in their minds only by following the weed-eroded concrete curbs outlining one-time streets that in turn fall into a pattern interlacing buildings demolished once the town outlived its purpose.

Born of the demand for coal to run the engines of the railroads and for coke to fire the furnaces of the smelters, Dawson died when diesel came to power trains and natural gas to smelt concentrates.

The proverbial company town, Dawson still is owned lock, stock and coal seam by Phelps Dodge Corporation. Always a mining firm with the foresight to hold fast to natural resources, Phelps Dodge now is seeing a resurgent value of coal.

Not only are the nation's resources of coal valuable as a domestic alternative to dependence on high-priced foreign oil for power generation, but even the company's

most modern smelter, in a diagonally opposite corner of the state, is experimenting with coal for fueling its flash furnace.

But Dawson tells tales of other historic import as well. It sprang from a part of the largest private landholdings in the history of the nation, saw its share of the breakneck growth that accompanied the development of the West, earned its place on a list of great tragedies and died a death that literally erased it from the map.

### ORIGIN IN LAND GRANT

The town that was to power a copper empire had its origin in the power of the Spanish Empire. On January 8, 1841, Guadalupe Miranda and Charles Hipolite Trotier de Beaubien petitioned the governor of Santa Fe, a regional administrator for the part of New Spain that is now New Mexico, for a tract of land.

Through their friendship with Governor Manuel Armijo, they received notification within three days that they were to be awarded almost two million acres in northeastern New Mexico, extending into Colorado.

Following the Mexican War and the resultant Treaty of Guadalupe Hidalgo in 1848, Mexico ceded to the United States for \$15 million the land north of the Rio Grande, including the land grant.

Under terms of the treaty, the United States guaranteed the property rights of Mexican citizens in the new area, including the rights to land grants issued by the Crown and Mexico since 1524.

In 1857 Beaubien and Miranda applied for a patent on their grant. A surveyor general for the state studied the claim and declared it valid.

Miranda soon desired to return to Mexico. In the meantime, a fur trapper and associate of Kit Carson named Lucien Bonaparte Maxwell had married Beaubien's daughter. Beaubien arranged for Maxwell to purchase, for \$2,745, Miranda's share of the property.

Beaubien and his wife Lucien were soon to die, after which Maxwell and his wife Luz began to consolidate the grant and gain total control. For some \$35,245, they were able to settle all claims against the land, although the boundaries at the time were still uncertain.

The Maxwells were to make a few more acquisitions and subsequent surveys showed a tract totaling almost two million acres.

Gold was discovered on the grant in 1866, leading to another segment of the history of New Mexico. By the end of the decade, Maxwell was a millionaire and the richness of his land had attracted the interest of capitalists here and abroad.

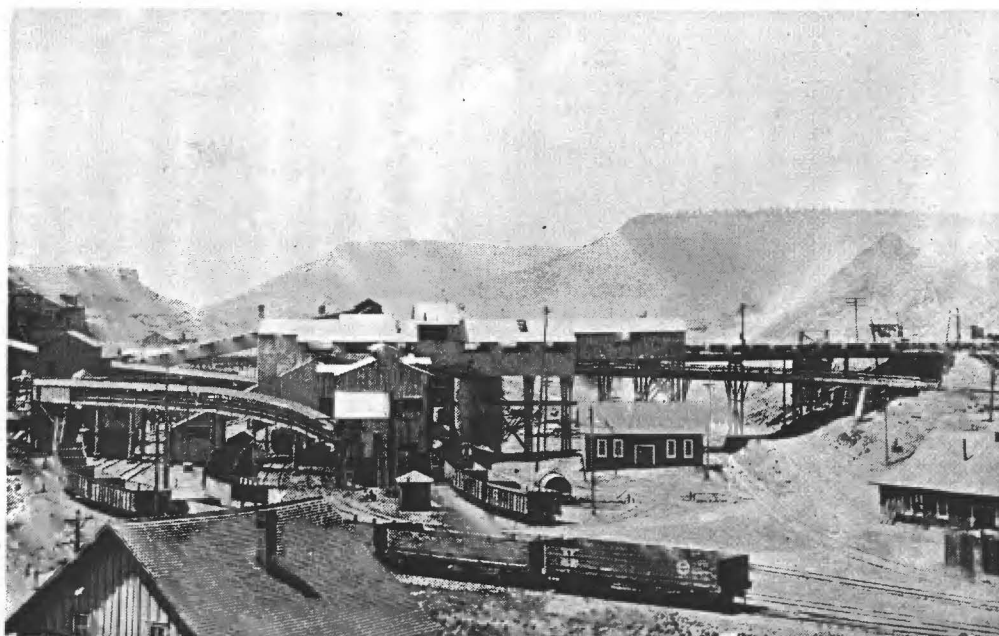
### PROMOTERS MOVE IN

One group consisted of Senator Jerome B. Chaffee, a mine owner from Colorado; George M. Chilcott, appointed by President Lincoln as registrar of the United States Land Office in 1863 and later a congressman and senator; and Charles F. Holly of Cimarron, legislator, miner and lawyer.

In 1870 the group took an option on about two million acres, less 1,000 acres Maxwell kept for a ranch, for 11.35 million. The Maxwell Land Grant and Railway Company was incorporated by them with stock of \$5 million for the purpose of subdividing the land.

A Dutch mining engineer examined the land's resources, determining the value of the deal was more than \$90 million. The company was soon in trouble, however, as the land was not selling as well as it had hoped and those who were buying it were concerned about actual boundaries of the grant.

A bloody chapter of New Mexico history followed as factions battled over whether it would be possible to collect rentals and royalties on ranches and mines. As a result, the Maxwell Land Grant and Railway Company was bankrupt by the summer of 1875.



**Rapid and economical handling of thousands of tons of coal per day required extensive facilities. This view shows the No. 1 tipple with the rugged northern New Mexico mountains in the background.**

Mortgages on the company were purchased and in 1880 the company was reorganized as the Maxwell Land Grant Company. An agreement was made with the Atchison, Topeka and Santa Fe Railroad to mine coal on the grant.

In December 1880, the company and the railroad organized the Raton Coal and Coke Company, dividing equally \$1 million in stock and advancing \$35,000 each for operations. In 1881 the Maxwell company leased the coal company 10,000 acres in York and Lillon canyons, while the railroad agreed to bear the expense of building a line to the mine site. An error in a deal with the railroad concerning the price of coal, however, meant the company would lose money during early years of the operation.

The company again reorganized, but still problems, including strikes, continued. In fact, every ton of coal sold to the AT&SF from 1880 to 1888 cost the company \$1.49½, so that by late 1888, the company owed the railroad almost \$120,000.

Finally the coal company was able to renegotiate and by the end of 1891 the railroad was paying 25 cents a ton above cost for the coal.

The company was able to lease out considerable coal property for royalties up to 10 cents a ton and continued to make a profit, even through the depression of 1893, primarily because of the contract with the railroad.

## BISBEE SUPPLIED NEED

Phelps Dodge's Copper Queen smelter in Bisbee, Arizona had from the beginning used trees from nearby hillsides to supply wood and charcoal for fuel. By 1885, however, the logging and natural losses had reduced the supply to an inadequate level.

At the same time, the quality of the orebody was crying for increased production.

The company looked to Colorado Fuel & Iron Company, which had properties near Trinidad, Colorado on the main line of the Santa Fe, about 20 miles north of Raton. After securing a dependable supply of fuel, Phelps Dodge undertook to build a larger smelter in Bisbee.

The existing furnaces had a capacity of only 500,000 pounds of copper ore a month. The new smelter had four 36-inch furnaces, which had twice the capacity of the smaller furnaces they replaced.

The old smelter was abandoned in August 1886 and the new works were blown in in May of the next year. During the partial year of operation in 1887, the smelter consumed 10,253 tons of coke, while the boilers, which continued to use wood, consumed some 3,554 cords.



**Scraper loader operations deep underground at the Stag Canyon Branch in 1929. It was an early example of new coal-mining mechanization to increase production and reduce costs.**

The increased production of copper in Bisbee and the concomitant need for coal provided much of the motivation for construction of a railroad into Bisbee, according to Dr. Douglas, head of Phelps Dodge interests there at the time.

"Without a railroad and cheap transportation," he wrote in 1909, "mineral coal cannot be hauled from mines hundreds of miles distant and no railroad is ever built until industrial development has attained a certain growth."

"In attaining this growth the unfortunate forest destruction inevitably and invariably occurs."

Freight had been hauled from Bisbee to Fairbank, about 30 miles to the northwest, where it met the rail. The line was built on into Bisbee by the end of 1888 and by the spring of 1889 the terminal work at Bisbee was completed.

In 1901 came the beginning of the company that was to provide Phelps Dodge its own stake in Colfax County coal mining. In October, John Barkley Dawson sold to the Dawson Fuel Company a tract of 23,000 acres.

Dawson had acquired the land, on a handshake and a shaky legal description, from Maxwell in 1868 for \$3,700. The fight for those 23,000 acres between Dawson and the heirs of the Maxwell Land Grant was eventually to reach the U. S. Supreme Court, with Dawson justifying the claim made on a handshake.

The Dawson Fuel Company in 1901 and 1902 was to acquire the mineral rights to another 15,000 acres from Charles Springer and Company. Later, in 1910, the surface rights to the latter acreage would be transferred to the Stag Canon Fuel Company, a subsidiary of Phelps Dodge, which would take over the Dawson Fuel Company.

The Dane Ranch, another 500 acres, went from Charles Springer and Company to Dawson Fuel in 1902 and in 1905 about 11,000 acres, including the Dawson ranch on the Vermejo, went to Stag Canon.

## PHELPS DODGE TAKES OVER

Dawson Fuel began operation May 1, 1902 and provided such competition to surrounding mines that the competitors' production decreased considerably. Stag Canon purchased Dawson Fuel and its holdings in May 1905 to secure a supply of coke for the Bisbee smelting operations of the parent company.

Charles B. Eddy, a promoter involved in Dawson Fuel, also was head of the El Paso & North Eastern Railroad, a near-bankrupt line that operated more than 450 miles of track between El Paso and Dawson. At the same time, Phelps Dodge acquired the railroad as it both gave the company access to the coal mines and provided an important connection with the Rock Island Railroad for its own railroad system, the El Paso & South Western.

The entire purchase cost Phelps Dodge \$16 million and incidentally made the company the second-largest industrial railway owner in the country, adding the new line to its El Paso and Southwestern Railway.

(See separate story on the railroad empire developed by Phelps Dodge as an outgrowth of its mining and smelting operations in Bisbee.)

The operation went under the name of Stag Canon Fuel Company as a subsidiary of Phelps Dodge. (In 1917, the name was changed to Phelps Dodge Corporation, Stag Canon Branch.)

Arthur Curtiss James, one of the two directing partners of Phelps Dodge who later



# Dawson

would serve as a vice president of the corporation, wrote in 1905 that "the coal mine itself can supply all the coal needed for the next hundred years. . . We have a blanket of coal at least five feet thick extending in one direction for ten miles and in the other, eight miles.

"This can all be mined by tunnels. . . in the hillside without hoisting. . ."

The Dawson coal seam, commonly known as the Raton coal bed, was to be mined on a two-degree dip which ultimately reached a mining depth of 700 feet. The coal was to occur in seams up to eight feet thick.

The railroad, however, was not in very good shape. "When we took over the management," James wrote, "the ties were hanging over the banks and the rails were all out of shape."

When Phelps Dodge took over the Dawson property, W. P. Thompson stayed on as general manager until January 1906, when he was succeeded by Edwin L. Carpenter. Associated with Carpenter in the early development of the property were Frank Cameron, general superintendent, and William Crow, mine superintendent.

In the coal company's 1905-06 year, it

produced some 65,000 tons of coke. After being taken over by Phelps Dodge, it produced more than 131,000 tons in its 1906-07 year, a figure that was to more than double again by 1908-09, when it produced more than 296,000 tons.

During the 1905-06 period, the Dawson mines employed as many as 1,500 miners. In the fiscal year ending June 30, 1905, the mines produced 508,008 tons of coal. For the year ending June 30, 1906, production of 663,292 tons was reported. For the year ending June 30, 1907, production dropped to 435,822 tons. But for the following year, ending June 30, 1908, production nearly doubled to 846,474 tons.

The Raton Range, a newspaper, gave an indication of the effects of Phelps Dodge ownership of the mines in its June 15, 1905 edition, pointing out that "activity in all its branches has been redoubled. The coal, the coke, the lumber and the railroad properties are all scenes of great activity."

The newspaper also provided for speculation, "At Dawson the capacity of the coke ovens is to be greatly increased. One hundred new coke ovens it is said, are to be

built. It was the development of the Dawson fields that the Phelps Dodge people had in view in purchasing the entire system and work in this direction is being undertaken without delay.

"The lumber company cannot begin to meet orders at the present time. The mills are being operated at their fullest capacity, with an increased force of men and the orders are still in advance of the capacity of the company to furnish lumber.

"At the Alamogordo shops, Master Mechanic Dawson is rushing work on the engines of the Northeastern, placing them in the best of condition to meet the demands of the traffic of the line.

"The Phelps Dodge Company has under consideration the purchase of the Rock Island right-of-way from Tucumcari to Santa Rosa so it is said. The company is declared to have an option on this property and is said to be about to close a deal for its purchase."

In 1910 Thomas H. O'Brien, who had been involved in acquisition of the Dawson properties, took over management of Stag Canon Fuel. During his tenure, until 1920, he was to be assisted by J. B. Morrow, washery superintendent, and three general mine superintendents, Joe Smith, William McDermott and William Hutchings.

## PEAK REACHED IN 1916

It also would be during his management that the Dawson operations would reach the peak of their production, having grown from 1,000 to more than 1,600 employees during the decade. The biggest year was 1916 when 1,439,904 tons of coal were mined.

Four new mines were opened on the west side of Vermejo Canyon and a new tippie built to serve them. The main tippie, serving the mines in Rail Canyon, burned in 1914 and was replaced with an all-steel structure of modern design.

Louis D. Ricketts, one of the foremost mining engineers of his time, constructed a large washing plant for the Dawson mines. His other projects included helping to develop Phelps Dodge operations in Nacozari, Mexico; building a concentrator for the Detroit Copper Mining Company at Morenci; building the Arizona Copper Company's smelter at Clifton, the International smelter at Miami and managing the Old Dominion copper mine at Globe.

Other additions to the pre-war operation at Dawson included a new machine shop and blacksmith shop, a modern store building for Phelps Dodge Mercantile Company, a dispensary building, a nine-room school, several public buildings and more than 100 houses in a new residential district.

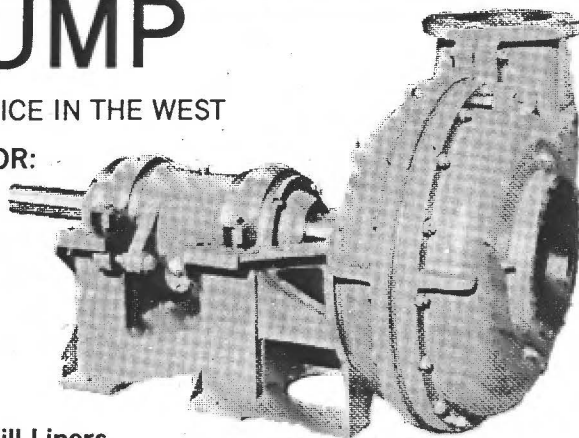
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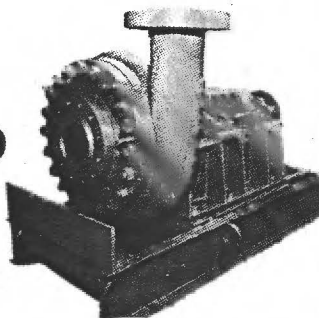
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reported that Dawson was "becoming the greatest coal camp in New Mexico," listing much of the construction that was done in the first decade of the century.

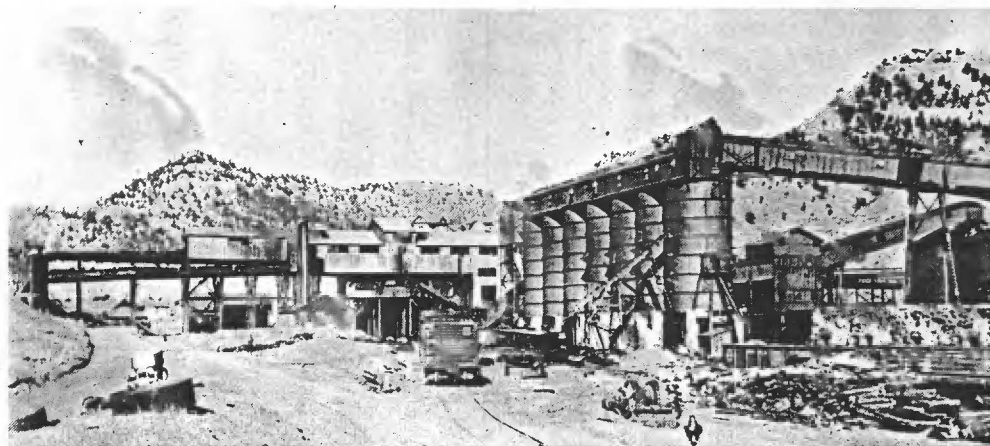
"Six hundred and forty-eight of the latest improved ovens that will save not only the coke, but the gas and tar besides, are nearly completed there and ten openings have already been made for the finest coal vein in New Mexico, which it is claimed cannot be excelled in quantity and quality.

"While the camp has been under course of construction, a railroad is steadily building toward it and when the ovens are completed and the mines are working full blast there will be facilities for handling the output.

"Already over four hundred houses are occupied by miners and their wives and families, with coke workmen and other laborers; and one hundred more tents are occupied with families awaiting a house to move into. Two large washers and two tipples.

"Contrary to the usual custom of opening new camps there are but two saloons and both of these are closed on Sunday and the claim is made that there is no rear door opening either."

From 1910 to 1920 the coal and coke were



The No. 1 and No. 2 tipples and washed-coal tanks at Dawson in the fall of 1920. In addition to providing fuel for its own far-flung operations and its railroad, large tonnages mined by the Phelps Dodge subsidiary were sold throughout the Southwest for railroad, industrial and residential use.

sold through the subsidiary Vermjo Coal and Coke Company. The name was changed in 1913 to Dawson Fuel Sales Company.

#### A BUSY CAMP

Coke production at Dawson reached a record 304,000 tons in 1917, but averaged more

than 200,000 tons each year from 1910 to 1920. In 1921 that production dropped to about 32,000 tons.

Total coal production averaged more than one million tons a year during the decade, ranging from 893,585 tons in 1909 to 1,439,904 tons in 1916. In 1917, the company had 1,383



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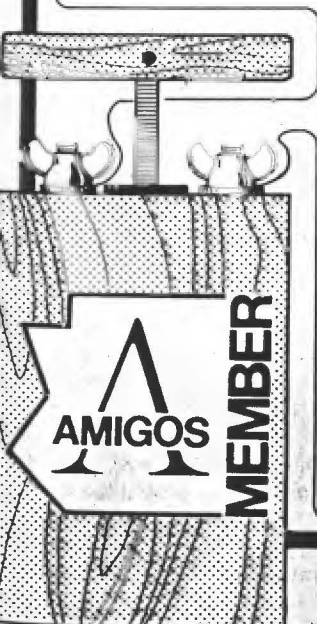
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# Dawson



The Phelps Dodge Mercantile store at Dawson on December 20, 1920. The big store provided a wide selection of necessities and amenities for the remote community.

workers, with about 1,000 in the mines.

In 1920 O'Brien was succeeded by William D. Brennan, who would serve until 1929. Morrow continued service as general outside superintendent and Scott Dupont as general underground superintendent. C. M. Hanson was general sales agent of the Dawson Fuel Sales Company.

The year Brennan took over, the company spent \$100,000 to build a new high school, named after James Douglas, which was to see two additions in later years. In 1925 the company built another 50 houses.

As is true with the tales of most mining camps in early years, that of Dawson does not lack its tragedy. A mine explosion in 1913

killed 263 workmen and another in 1923 killed 120.

Despite the fatalities in those two explosions, state mine inspectors had praised the safety methods at the mines, which were considered to be among the best in the nation.

Coal and coke production began to fall during the 1920s and by the end of the decade the depression and more modern mining techniques would severely cut the number of workers needed at Dawson.

While in 1920 there were eight mines operating, producing more than one million tons of coal with more than 1,500 workers, the following year only about 1,100 workers produced some 800,000 tons of coal from ten mines.

Production remained at just under one million tons annually for about six years and the number of workers varied from 1,000 to 1,100. Production dropped in 1929, however, with about 600 workers mining approximately 720,000 tons of coal.

## DOWNTURN BEGINS

A damaging blow came to the operations in 1926 when the use of coke for smelting copper was displaced by oil. The Douglas smelter was reached by a natural gas line in 1931 and around this time, coke production at Dawson ceased.

In 1930, coal production dropped again, to 389,000 tons, and employment decreased to 474. The mines operated only 195 days that year, compared to as many as 340 during years of peak production.

By 1932, the last year New Mexico state law allowed production figures to be published, the mines' output was less than 260,000 tons. There were about 300 workers at Dawson then, some two-thirds underground and one-third involved in surface operations. The manpower level would remain close to that throughout the rest of the life of the operation.

For the rest of its days, the Stag Canon Branch would provide coal for the railroads, mainly the Southern Pacific, which had bought out Phelps Dodge's El Paso and Southwestern Railway in 1924 after the two companies had been able to patch relations.

In 1950, however, the railroads were converting to exclusive use of a much cheaper fuel, diesel.

Phelps Dodge told Dawson residents in February 1950 that the operations would close April 30th. At the time, the town's population had dwindled to about 1,200.

In June of that year, National Iron and Metal Company of Phoenix bought the town of Dawson for \$500,000, except for 16 houses for the cowboys who would turn the 52,000 acres of coal and timber property into a cattle ranch.

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Everything in the town that wasn't permanent was sold. Four hundred of the houses were sold and moved to other locations. Everything else—stores, the opera house, hospital and other public buildings—were razed.

A few years ago a man who spent his boyhood in Dawson revisited the site which at one time had 2,000 buildings and housed 8,000 residents. "It was a strange feeling to be there in the midst of what had been a sizeable, active community, now so completely gone, to feel the ghosts of childhood crowding in all around," he wrote.

In 1981, the only way to mentally rebuild the townsite is by following the patterns of the eroded and weed-capped blacktop of the streets or the concrete gutters and curbs.

## A NEW DAY COMING?

In recent years, however, Phelps Dodge has been reevaluating its coal reserves at Dawson, although the company now considers coal from the Dawson seam to be of steam or commercial quality, rather than fit

for metallurgical purposes.

In 1976, the company constructed one of the most modern copper smelters in the world in Hidalgo County, New Mexico, diagonally across the state from Dawson, which employs a highly energy-efficient flash furnace technique. Recently, Phelps Dodge engineers have been experimenting with injecting crushed coal along with the concentrates into the furnace to provide a cheaper source of heat for smelting.

Although Phelps Dodge has given no indication that it plans to reactivate the Dawson coal properties to provide fuel for the Hidalgo or any other smelter, the company's 1980 annual report noted that a drilling program was conducted there and that an evaluation is under way.

This sets the stage for interesting conjectures as industry and technology turn again to utilization of Dawson coal. It could be that the cycle of history that began at Dawson at the turn of the century will come full circle and another chapter added to one of the most dynamic tales in the development of New Mexico's natural resources.

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