Annual Report
of the
State Mine Inspectors
of Wyoming

1911

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ANNUAL REPORT

OF THE

State Coal Mine Inspector

OF

WYOMING

DISTRICT No. 1

From →

GEORGE BLACKER
Inspector District
No. 1

1911

The Wyoming Labor Journal Publishing Co.
Cheyenne, Wyoming

Letter of Transmittal

December 11th, 1911.

Hon. Joseph M. Carey, Governor,
Cheyenne, Wyo.

Dear Sir:—

Herewith I hand you my report as the State Inspector of Coal Mines for District No. 1 for the fiscal year ending September 30th, 1911.

Yours very truly,
GEORGE BLACKER,
Inspector.

Annual Report

of the

State Coal Mine Inspector

District No. 1

I am pleased to report that District No. 1 has been free from labor troubles during the past year, nothing occuring to mar the pleasant relationship existing between the employer and the employed; each living within the utmost confidence that the other is endeavoring to rigidly adhere to the conditions of the obligations all have assumed.

From information received at this office, I have every reason to state that a higher average wage is paid to the miner than he ever received before for similar work.

During the past six months the demand for labor has not been great, owing to the market condition in the states west of us, and the fact that our railroads were not operated to their full capacity. Still there is a scarcity of skilled miners in this District of men who thoroughly understand the method of extracting the coal at a minimum of waste. Many foreigners are employed who are unacquainted with the principles of coal mining, their ignorance often bringing on themselves injury or death, and at the same time endangering the lives of those depending on them for safety. This class of miners should on no account be permitted to labor in a coal mine without expert supervision during each and every hour of their employment, until such time as they have become proficient in the methods of handling powder, drilling and tamping holes, and the exercise of such cautionary methods as are necessary in all well regulated coal mines for the safety and security of all concerned.

It is asserted by many that where machine mining is in operation, men of large experience are unnecessary to perform the labor. The argument is untenable in the face of the facts apparent to the investigator seeking information on this subject. Competency spells safety in all coal mines. Men capable of detecting danger, and of applying the timely remedy should always be employed in preference to men without this experience.

A majority of the accidents, fatal and otherwise, have happened to those whose employment dated back less than eighteen months, and upon visiting the scene where death occurred, I have invariably found that the accident was caused by the negligence of the deceased in violating the simple rules of the company which are promulgated for his safety. A failure to timber the working face or to take down all loose rock and coal overhead, results sooner or later in the injury or death of the careless or indifferent workman.

The evidence before the Coroner investigating fatal accidents occuring in the mines, corroborate the above statement, that negligence

is primarily responsible for the majority of deaths; that the mine foreman, his assistant, or the shot-firer, have ordered props to be set to secure the dangerous roof, but that their orders have been disobeyed, and death resulted. It would be a step in the right direction, that when a workman neglects or refused to comply with the orders of the mine foreman, or person in authority, in the interest of safety, the driver be notified not to give to such person any cars until the matter complained of be adjusted in a satisfactory manner.

Printed Rules. I would also suggest that the various companies comply with Section 3515 of the law, which provides that the rules and regulations governing employes be printed in the language or languages used by the miners working therein. The law is plain, but thus far no effort has been made to give it effect, and until this is done an injured workman suing for damages on account of his injury, probably would have a good cause of action against the company by setting up the fact that he could not read the English language, the language in which the rules are printed.

Obedience to these rules and regulations cannot be exacted, nor expected, in cases where the same are not understood by reason of the failure of the workman to read, what is to him a foreign language, hence the provision of the law in this respect is a wise one and ought to be attended to and obeyed without delay by the operators, so that there can be no excuse when serious bodily injury occurs in disobedience to established rules on account of failure to read and understand them.

The ignorance or carelessness of one man may menace the lives of all in the mine. How necessary then it is that each and every person plainly understand his duties, and labor intelligently with a due regard for the safety of his fellows.

Explosives. The various companies have been quick to take advantage of every expedient recommended for greater security in the mines; the adoption of "Permissible Explosives" being the most important of these. The difference in the coals require a different powder and the explosive that might be satisfactory in one mine may not be so in another.

No. 2 mine at Cumberland is the most gaseous and dusty in this District, and it has been determined that Monebel, an explosive recommended by the United States Bureau of Mines, is highly satisfactory under the conditions met with in this mine; but at No. 1, a sister mine in the same vicinity, this powder does not give the good results that it does in No. 2, so that different "Permissible Explosives" are used in the two mines. Many have been tried and the one best suited adopted.

It is hoped by this office that the Experimental Station at Pittsburgh will discover an explosive that will meet the requirements of all the mines, so that we can legislate what kind of powder should be allowable in the coal mines of this state, and forever bar the deadly black powder from being one of the necessaries of coal mining.

Blasting. A number of fatalities have occurred in mines where indiscriminate blasting is unrestricted, the miner being permitted to fire as many shots at one time as suits his purpose and inclination. That this method is dangerous and wrong is established by the many

injuries and deaths recorded in the mines resulting from the promiscuous blasting of two or more shots.

It often happens that the miner imagining that all his shots have exploded, or believing that one has failed, goes back to his working face to ascertain the cause, and in so doing is caught in the explosion of the delayed shot, and either killed or seriously injured. One shot or blast at a time would prevent any uncertainties in this respect and would be safer.

The practice of fiiring at noon is not to be commended, because no matter how much air might be circulating through the mine, when forty to fifty heavy blasts are exploded in the current, the same becomes charged with the hot smoke and is in itself a great source of danger, for if a blow-out shot hurls its fire into this mixture, serious consequences might ensue, as such a mixture is highly explosive; besides, the workmen in the return must suffer in breathing the noxious gases generated by the combustion of the powder.

I believe that the Inspector should have the authority to prohibit such indiscriminate blasting and arrange that such firing be done at night, when in his opinion the work can be done without loss or injury to the parties conerned.

Another source of danger requiring attention is the very careless manner indulged in by the miners, of allowing their powder to lie in the open where it is exposed to naked lamps and sparks that fly from the same. The mine foremen are likewise blamable for this condition of affairs and should insist on the employment of the miner, that one of the conditions of his employment must be that he use a box in which to keep his powder, paper and squibs. I observe with much satisfaction that in Rock Springs all such boxes are being covered with tin, and rendered impervious to fire.

In my opinion five pounds of powder is as much as any one man will require for his daily needs, and more than this amount is unnecessary and should be prohibited by the management.

Ventilation. (Non-gaseous mines.)

Many complaints have been received at this office of a lack of ventilation in the non-gaseous mines of this District, and an impartial investigation of some of the complaints justifies the assertion that there is much room for improvement in some of these mines, so far as ventilation is concerned.

The word non-gaseous carries a false meaning of safety to a casual observer, allowing him to infer that because of the absence of gas or fire-damp the mine must be safe and healthy. The contrary of this is the truth, and a non-gaseous mine improperly or insufficiently ventilated will in the long run ruin more lives than a gaseous or firey one. The fact that there is no fire-damp is too often the excuse for neglecting to provide the minimum of air required by law, notwithstanding that great quantities of carbolic acid gas—the deadly black damp of the mines—is always present. It is the product of the breathing of the men and animals, burning of lamps, or any other complete combustion constantly accumulating on the floor of the workings and is carried along by a sluggish current of air which becomes nauseous and almost unbreathable, long before it reaches the last man on its journey to the upcast shaft. This deadly black-

damp will not sustain life nor support combustion, and its presence should be viewed by the operator with as much dread as he does fire-damp. When a miner is required to use two lamps because of the presence of this gas, the ventilation in that part of the mine is sadly defiicient and calls for strong condemnation by all fair minded men. There can never be a time when such a condition becomes necessary in any coal mine. A good fan traveling at a fair rate of speed; large air-ways and **proper stoppings,** would remedy the evils complained of, and would be the means of supplying the miners with the necessary amount of air, thus enabling them to perform their work, and more of it, with greater despatch, and at the same time keep them healthy and strong. As it is, the reverse of this picture is true. Men working in contaminated air become prematurely old, sallow and asthmatic, and at a period in life when they should be in their prime, they die, in many cases leaving a family of boys but half grown, dependent on charity for the necessaries that will enable them to live until they arrive at an age to follow in the footsteps of their father.

Safety Methods. I am pleased to note a steady improvement in the interest of safety from fires, which in the past have wrought havoc in coal mines throughout the country. The air bridges when constructed of wood are being encased with sheet iron, and made as near fire proof as possible, and the newer ones are being built of concrete.

The underground stables, heretofore a source of danger, by reason of the combustible material used in their construction, and the quantities of hay necessary for the forage of the animals, are so arranged that a fire is next to impossible. No one is allowed to enter the premises with open or naked lights, and every precaution is taken to guard against accidental fires.

Water pipes have been laid in many of the mines, and at regular intervals of time, a force of men are employed to see to it that sprinkling is done in such a manner as to keep the dust in a moistened or wet condition. In my judgment all mines should be installed with a system of water pipes, whether they be wet or dry, so that in the event of sudden fires a remedy is immediately available, and consequent loss and damage prevented. All stables, pump rooms and hoisting stations should be equipped with water pipes, as these are the most likely places for fires to originate, and a little forethought in this respect might be the means of averting a calamity and much damage.

Old Methods. The most surprising feature noticed in connection with the management of some of the mines is the failure or ignorance of certain superintendents to avail themselves of the tools placed in their hands by modern science, when the employment and use of which would necessarily mean economy in operation, and health and greater safety to the employes.

These superintendents effect to be progressive and up to date in all that pertains to coal mining, and yet on visiting their mine or mines, the very first stopping examined shows that it was constructed in the most primitive manner possible, either of inflamable material or brick, or stone without mortar, and sometimes with mortar, but in such a way that should an explosion take place, it is hurled like

chaff before the wind. In nine cases out of ten, one or more leaks are found through which the air whistles from the intake to the outlet.

Dangerous Stoppings. It is an undisputed fact that many lives have been lost in our coal mines because of fires originating in wooden stoppings; and the further fact is notorious that in certain mines where explosives have occurred all the stoppings between the intake and the return were blown out and destroyed, and before the ventilation could be restored, temporary stoppings had to be built, and while this was being done scores of valuable lives were snuffed out my the after-damp.

Value of Stoppings. These facts are familiar to us all and taken with the fact that the stopping, simple and ordinary as it appears, is in reality the most important part of the development and maintenance of a coal mine. How necessary then it is that this particular work be done in a fixed and permanent manner, so that after its completion it will require no further attention during the life of the mine.

Abandonment of Old Methods. It is high time that the antiquated methods heretofore employed in the building of stoppings with common boards, wooden blocks, boney, brick and stone, or any material that will burn or be blown out, be abandoned, and modern methods applied that are free from any of these objections. An explosion is rarely general, that is its force rarely extends to all sections of the mine; then why is it that the miners working in that portion of the mine not effected by the force of the explosion must suffocate? Is it not because the stoppings are too frail to withstand the force of the explosion and are therefore blown out, and before they can be rebuilt, even temporary, and the current partially restored, the deadly after-damp, like an assassin, waylays and destroys them. This being true, as all must admit who are familiar with scenes in the mine after an explosion, then what is to be thought of the management of those directly in charge of such a mine who seeing the stoppings blown out like paper by an explosion, and the death of scores of men far away from the point where it originated or extended, will immediately rebuild those stoppings in the same manner as formerly. Would not this look like criminality?

Concrete the Remedy. The varied uses to which concrete is applied demonstrates its adaptability to stoppings in coal mines. When we remember that it is used for forts, railroad bridges and canals, that cement is comparatively cheap, and that sand and gravel, or suitable stone are usually conveniently near the mine, we should not hesitate a moment in adopting this indestructable material for the purpose of stoppings.

In a few mines in District No. 1 such cement stoppings have been tried in every instance with success. The jar of the heaviest blast cannot affect them; they are fire, water and explosion proof if built in the following manner: Clean out the cross-cut; dig a small trench along the bottom sides and top; set two rows of props about ten inches apart; place boards against the props facing each other, with a space between of six to eight inches; pour cement into this space and tamp it thoroughly. After it has set, which will be from twenty-four to forty-eight hours, remove the props and boards

and smooth the top and sides with cement and then it will never need further attention. This is simple and cheap; in fact much cheaper in the long run than the old pile of waste matter usually called a stopping, which never did stop and cannot be made to stop the air from whistling through it. Let the superintendent give the order and furnish material, and I will guarantee that the mine boss will do the work in a manner that will be entirely satisfactory.

Hazardous Occupation. Coal mining has always been a hazardous occupation, and in its very nature always will be. We cannot hope to eliminate all the danger, but it is in our power to reduce them to a minimum and prevent the repetition of those awful holocausts that have shocked the civilized world.

The government is alert to every idea, the use of which might safeguard the operation of the mine; it has tested the various powders and recommend those least dangerous; it has inaugurated a first aid to the injured movement, which must result in benefit in case of accident; it has established rescue stations at different points in mining centers; it has cars equipped with modern appliances for rescuing parties to enter a mine where a fire is raging, or after an explosion. The principal appliance is the oxygen helmet, designed to enable a person to live in smoke or gas, and bring to the surface those overcome by the fumes of either, where they can be treated medicaly in the car. These may in themselves prove to be good investments in the absence of assured methods of prevention.

Safety can only be guaranteed in knowledge applied without stint on the part of the management; knowing what ought to be done, and refusing or neglecting to do it on account of the expense involved, thereby inviting disaster and loss of life, is criminal, and ought to be so regarded. Better by far withdraw the men and abandon the mine than to attempt to work at the expense of human life under such conditions.

Discipline should be rigidly maintained. Men must understand the rules and regulations and obey them, and every infraction should be severely punished. No man ought to be permitted to endanger his own life or those associated with him. The operator should do his full duty by maintaining necessary material; proper air courses; appliances for sprinkling and a fan of sufficient size to circulate more than the required amount of air through the mine. With conditions like these accidents will be reduced to a minimum, and health and general safety will be assured.

The law plainly requires that the annual report of the companies operating coal mines in this state must be submitted on the 30th day of October of each year. This provision of the law has not been complied with with anything like punctuality by some of the mine owners.

Some of them have deferred their report until the first of December, thereby causing considerable annoyance and trouble as well as delaying the annual report of the Inspector of District No. 1.

I sincerely trust this matter will be looked at more seriously by the owners of mines hereafter, and that their lawful duties will be performed in manner provided by law, and this office relieved of the

necessity of making special trips to obtain the information which should be on hand on the date provided by the statutes.

I have made my examinations in accordance with the provisions of the law, and in many cases I have made more than the required number of visits in order that I might become fully acquainted with all the intricasies of the inner workings, so that my duties could be performed intelligently. I have found no wilful violations of the law. True in some instances I have found things not quite up to a high standard of efficiency, but the prevailing circumstances largely contributed to the condition in which those things were found. Whenever I have called attention to infractions of the law, the matter was immediately attended to, and a disposition manifested to strictly comply with its requirements. In many cases I observe that the management have excelled in their efforts to bring about the best conditions possible in their mines, and this commendable spirit I should like to see generally prevail. I herewith submit a report of the individual mines, together with such information as to improvements as each has been pleased to furnish.

Mines in Uinta County.

The Kemmerer Coal Company operates mines at Frontier, Susie and Sublet. The coal veins vary from 6 to 12 feet, are semi-bituminous and reached by slopes. I have always found the ventilation good, the roadways moist and free from dust. They are equipped with modern machinery and with the very latest safety appliances for use in an emergency should a serious accident occur.

No. 1 and 3 mines are located at Frontier with a joint capacity of 1,400 tons per day.

No. 4 mine is at Susie, four miles north of Frontier, and Sublet is nine miles north of Frontier. These mines are well ventilated and the management reports the following improvements during the year:

"Improvements No. 5 mine, one direct motion 20-inch by 30-inch Incline engine, made by Vulcan Iron Works.

"For all the mines: Two sets of Drager rescue apparatus, one oxygen pump and one pulmoter."

The entire output of these mines for the year ending October 30th was 622,601 tons, which was shipped to points in Idaho, Utah, Nevada, Montana, Oregon, Washington, California, Nebraska and South Dakota.

Hon. P. J. Quealy is vice president and general manager, Charles Vaughn foreman at Frontier, Arthur Robinson at Susie and Peter Paterson at Sublet.

Elk Coal Company.

Is situated about seven miles south of Kemmerer on what is believed to be the thickest coal vein in the state, being about fifty-one feet and clean from top to bottom. During the year the mine and property was idle a large portion of the time on account of litigation, now happily ended. A. L. Thomas, Jr., is the lessee and manager of the property.

Diamond Coal and Coke Company.

This company's mine extends from the town of Diamondville to

Glencoe, a distance of about five miles south. These mines are in semi-bituminous coal which averages about twelve feet in thickness, are well ventilated and managed with a view to the general safety of the men and mines. No. 1 mine is at Diamondville and produced during the last year 157,636.85 tons with an average number of employes of 193.

Oakley No. 2 produced 175,513.90 tons with an average of 169 employes.

Glencoe No. 4's output was 201,984.20 tons; the average number of employes was 172 for the year.

Mr. Thomas Sneddon is superintendent of these mines.

No report of improvements in and about the mines have been made in the annual report to me; still my observations disclose the fact that the company is keeping abreast with the newest ideas of safety.

Union Pacific Coal Company, Cumberland.

No. 1 and No. 2 mine are located south of the town of Kemmerer on a branch of the O. S. L. R. R.

No. 1 will soon be a thing of the past, the coal being worked out to such an extent that only pillars remain, and these will be exhausted long before my next annual report is submitted. During the year just ended the mine has produced 218,160 tons with an average number of employes of 177.

No. 2 mine has produced 293,355 tons with an average of 282 men. These mines have been handled in splendid shape as is evidenced by the fact that no great accident has occurred in them, notwithstanding that the gas generated was enormous. Mr. J. M. Faddis is superintendent and John Mates foreman of No. 2 mine.

Rocky Mountain Coal and Iron Company.

No. 6 mine belonging to this company is located about six miles north of Evanston, and for the period between May and the first of August it was closed as far as shipments of coal to outside markets was concerned. The mine produced 29,688 tons during the year, with an average number of employes of 44.

Mr. John H. Martin is superintendent of the mine.

Evanston Coal Company No. 4.

This company was opened primarily for the purpose of recovering some of the coal left in that vicinity when the U. P. mine No. 4 was hastily abandoned on account of fire.

Its output for the past year was about 15,000 tons, disposed of principally to local trade. The mine will be closed early in the new year.

Mr. D. G. Thomas is superintendent of this mine.

There are two or three smaller mines in operation in Uinta county, but because of the few men employed, they do not come under the rquirements of the law, and therefore were not visited by me.

These mines produced for domestic purpose perhaps all told 10,000 tons.

Sweetwater County.

This county contiuues its proud record of being the banner coal

producing county in my district, and will doubtless remain so for many years to come.

The Union Pacific Coal Company.

The largest operator of coal mines is the above named company, with headquarters at Cheyenne and Omaha, Nebraska. Their mines Nos. 7, 8, 9 and 10 at Rock Springs are equipped with first-class machinery, modern safety devices with well organized teams for rescue work.

The first mentioned mine produced 224,449 tons of coal with an average of 416 men employed. Electricity plays a large part in the haulage of coal, the coal being gathered by horses and mules from the faces, where it is loaded to a plane, lowered by electric hoists, and taken by four electric locomotives nearly four miles to the dump, where it is loaded on board cars for shipment to market.

No 8 mine is on the same vein of coal as is No. 7 and adjoins it on the north. This mine produced last year 238,275 tons of coal and the average number of men employed was 323.

The haulage is similar to No. 7 mine, being mules, horses and motors, three of the latter being in constant use. In the rooms the coal is cut by electric machinery, the holes for blasting drilled by electric drills and the blasting done by experienced men.

A team has been organized for rendering first aid to the injured, and these are in constant practice at a building suitably built for this purpose.

No. 9 mine adjoins No. 7 on the south, it being on the same vein of coal with an output of 215,445 tons, employing an average of 323 men.

Haulage is like the other mines and two electric motors are used for this purpose. Classes in first aid work are formed, and the team given the necessary training to make them accomplished.

Not all the coal is machine cut, there being some hard work in this mine.

No. 10 produced 245,815 tons with an average of 289 men. The mine is northwest of No. 8 and adjoins it, being on the same vein of coal, and the methods of mining are precisely like those enumerated above.

In all these mines precaution is taken against fires; everything of a combustible nature is covered with tin or sheet iron; tool boxes, powder boxes and doors are so covered and thereby made as fireproof as possible.

In all mines, teams for first aid work are organized, equipped with every modern device known to mining, trained in such work as they are apt to encounter in mine disasters, and given every opportunity to become expert in the work. The men take to it readily and have proven themselves proficient under the most trying ordeals.

In such mines as were deficiently ventilated by reason of the distance over which the air must necessarily travel, new fans are being installed which will remedy all defects in this instance, and be the means of affording an ample supply of air to all parts of the mine.

George Pride is mine superintendent, and John Dykes, D. G. Jones, Matt McDill and Ben Lewis, the mine foremen, respectively.

Reliance.

This camp is located a few miles north of Rock Springs, on the same vein and the coal is of the same quality.

Three mines are opened, two being in the coal and the other will be a producer within a short time. Up to date the two mines made 62,869 tons. About 75 comfortable and commodious houses have been erected, and others are being added steadily. Water pipe is being laid to each tenement, and all will be lighted by electricity.

The mines will likewise be modern so far as equipment is concerned, will be thoroughly sprinkled and the stoppings and air bridges be made of concrete. Mr. F. L. McCarty is the superintendent and Frank Overy and David Daniels are the foremen.

Superior.

There are five mines at this camp employing nearly one thousand men and producing more than three-quarters of a million tons of coal.

The mines are designated by letters A, B, C, D and E, all of which are improved wonderfully during the past year with splendid equipment in the way of machinery.

There are four chainbreast mining machines in "A" mine. These are used in slope, air-course and room work. Electric drills for boreing, and telephones into the mine; electric locomotives for hauling purposes and electric driven fans for ventilation.

"B" mine employs nine electric chainbreast mining machines, and nearly all the mining is done with these.

The superintendent reports the following results of their experiences with the hydraulic mining cartridge in "B" and "C" mines:

"As a result of a test made of hydraulic mining cartridges in two of our mines we beg to report as follows: Twelve of these cartridges were ordered and the experiments were carried on as fully and completely as possible under all sorts of conditions, but the net results were not satisfactory for the reason that they would only break down the coal in the center of the rooms, leaving the sides to be shot by powder in the old way."

Throughout the past year experiments have been made with three different kinds of permissible powder in connection with electric exploders. Trojan, Monobel and Aetna powders were purchased in two-ton lots and used throughout the mine under all conditions after the mining machines. Later a carload of Monobel was purchased and tests of one month were made, and with the result that the use of this powder adds considerably to the cost of production and that the coal is much more shattered than with common black powder.

These mines produced during the year just closed a total of 783,962.60 tons of coal.

W D. Brennan is the superintendent and the following named gentlemen are the foremen of the different mines:

Joseph Trayer of B and E mines.

Thomas Whelan of D mine.

W. M. Hartman of C mine.

Jake McDonald of A mine.

The power plant has been enlarged, a new gas engine and generator

installed, artesian wells drilled and serving lines laid to the tenements, a first-class fire fighting equipment established and ample provision made for rescue work by the organization of teams and a system of training with the breathing apparatus and in first aid to the injured.

Gunn-Quealy Coal Company.

Located at Gunn a short distance from the town of Rock Springs and adjacent to Superior and Reliance, is on the same vein and of the same quality of coal as is found in those mines.

Last year this mine produced all told 153,532.91 tons with an average number of 168 employes.

Considerable work in the way of improvement is noticeable at this camp, both in and out of the mine. Concrete reinforced is used for overcasts inside the mine, and shaker screens have displaced the old bar screens, and electric box car loaders have been installed outside, and the facilities for handling and loading the coal are complete.

Mr. J. H. Roberts is the superintendent for this company.

Central Coal & Coke Company.

These mines are in the vicinity of Rock Springs, two of them on the same veins of coal, and one, Vandyke, is on a four foot vein by itself.

The output during the past year amounted to 305,345 tons, employing an average of 494 men. Owing to the delay in obtaining this report, I am unable to include the statements of improvements at the different mines, but will state that they are up to date and keep pace with the other companies. William Money is the superintendent.

Rock Springs Gibralter.

This mine is situated in Black Butte in Sweetwater county, is ventilated by a furnace and the vein is six feet thick.

The mine produced last year 18,954 tons of coal, with 35 men employed. Moses P. Harvey is superintendent and general manager.

Rock Springs-Wyoming Coal Company.

This mine is located at Point of Rocks, but during the past year it was idle and this office has no report nor any information as to its future.

Wyoming Coal Company.

This mine is in the Rock Springs field, at Blairtown, a suburb of the former place, the vein is nine feet thick and during the past year produced 108,023 tons with an average number of 120 men employed.

Mr. ———— is superintendent and John Paterson the foreman for the company.

Carbon County—Hanna Mines.

Mines Nos. 2 and 3 produced in the aggregate 608,575 tons of coal during the year just ended, with an average number of 528 employes.

The vein of coal in No. 2 mine is thirty feet thick, and the mine is well equipped with first class machinery and with safety appliances.

No. 3 mine is in a vein of coal twenty-four feet thick and is as fully and completely equipped as is No. 2.

Mr. Tom Butler is superintendent, and William Rae and Charles Higgins the foremen.

Colorado-Wyoming Coal Company.

Kent Mine No. 1, in Carbon county made no shipments during the year on account of a lack of railroad facilities; the entries are driven, and the mine in shape to produce a large output.

Raymond Kent is the superintendent of the mine.

A comparative statement of the coal output during the years 1910 and 1911:

Name.	Tonage 1910.	Tonnage 1911.	Employes. 1910.	1911.
Rock Springs No. 1	143,785	.....	286	Abandoned
Rock Springs No. 7	267,875	224,449	315	416
Rock Springs No. 8	311,812	294,919	309	325
Rock Springs No. 9	243,823	296,165	270	323
Rock Springs No. 10	269,533	255,815	277	289
Central Coal Co., Nos. 1, 2, 3	331,457	305,844	410	494
Wyoming Coal Co	180,000	108,023	175	120
Point of Rocks	9,765	.....	21	Abandoned
Black Buttes	50,145	18,954	65	35
Diamond No. 1	172,252	157,636.85	163	193
Oakley No. 2	156,096	174,513.90	126	172
Glencoe No. 4	212,573	201,984.20	187	169
Frontier, 1, 3, 4, and 5	615,635	622,601	789	707
Almy No. 6	62,048	29,688	83	44
Superior, A, B, C, D, E	938,586	768,706.25	855	820
Cumberland No. 1	258,732	218,160	200	177
Cumberland No. 2	316,794	293,355	320	282
Cumberland No. 3	5,091	.....	110	Abandoned
Hanna No. 2	340,491	316,067	225	331
Hanna No. 3	257,522	292,806	170	197
Gunn-Quealy Coal Co.	162,078	106,171.41	235	168
Reliance, 1, 2 and 3	.....	98,859	...	75
Elk Coal Co.	35,000	59,070	80	100
Evanston Coal Co.	35,000	22,000	30	21
	5,426,103	4,865,761	5,701	5,458

Fatalities.

There were twenty-one fatal accidents during the year just closed. Five of these occurred to Japanese, four to Austrians, three to Italians, two to Finlanders, two to Scotch, one Greek, one Korean, one Chinese, one Slav and one American.

Eleven of these were married men, each leaving a widow and a total of twenty-nine children.

Their names, nationality, place and manner of death is as follows:

Arelio Felin, Austrian, age 28, Superior, by falling rock.

Jack Jones, American, age 26, Superior, by runaway trip on slope.

Andrew Taffe, Slav, 28 years, Glencoe, by empty trip cars.

Joe Bartos, Austrian, age 22, Sublet, on incline, while visiting there.

Joe Garneo, Italian, age 29, Oakley, by falling rock.

Urban Galicik, Austrian, age 38, Cumberland, by falling rock.

Victor Lusty, Finlander, age 37, Cumberland, by falling coal.

A. Piazza, Italian, age 28, Cumberland, by falling coal.

Robert Vicars, Scotch, age 27 years, Diamondville, by falling rock.

S. Goshinaga, Jap, age 43, Oakley, falling rock.

S. A. Cuzzino, Italian, age 27, Hanna No. 2, premature blast.

Aug. Anselmi, Austrian, age 24, Rock Springs, No. 10, by falling rock.

Mike Sarah, Greek, age 22 years, Blairtown, by falling rock.

Ah Coon, Chinese, age 61, Rock Springs No. 9, by falling rock.

M. Yamazake, Jap, age 34, Susie, by falling rock.

E. Noksokos, Jap, age 30, Susie, and his partner, K. Okinioto, age 19, while trying to relight a shot that was long in exploding, put the needle in the hole for that purpose, when it went off, killing both.

F. Enoyme, Jap, age 30, Blairtown No. 2, by falling rock.

John Hukala, Finlander, 19 years of age, Blairtown, burnt with powder.

M. Matsuda, Jap, age 25 years, Susie, by falling rock.

A. C. Shon, Korean, age 35 years, Superior, by falling rock.

John S. Aitchison, Scotch, age 36 years, Cumberland, killed by explosion of gas in No. 2 mine on the morning of May 27th, 1911.

The deceased was a gas watchman, and while making his daily rounds through the mine, his light in some manner went out, and in relighting his lamp, he ignited the gas, which caused his death.

The verdict of the coroner's jury was in accordance with the above statement.

Minor and Non-fatal Accidents.

I do not doom it expedient to make mention of all persons receiving injuries in the mines, but will state that the sum total of persons injured more or less amount to ninety-seven.

Concluding Remarks.

In conclusion I would most earnestly recommend that our mining laws be overhauled and amended and made to conform to present day needs, and that the same be done in the following manner:

That the legislature empower the governor to appoint a committee of an equal number of operators and miners, giving the committee authority to select a good man as the odd member. The committee to draft a bill which shall be enacted into a law by the said legislature, retaining such parts of the present law as apply to present requirements, and adding thereto such amendments as ought to be adopted for safety.

It must be remembered that our principal laws on coal mining were enacted twenty-three years ago. At that time they were in line with progressive mining, and in all respects commendable. But we are advancing steadily in our methods and we are learning more as to the dangers in the mines and of the manner of avoiding them; but it is difficult to compel some persons to heed a recommendation for safety in the absence of a mandatory law on that particular subject.

I deem it of the utmost importance that our laws be made to keep step with mining in its advancing stages. In the interest of better discipline, measures should be enacted providing punishment of a drastic nature to those doing or allowing things to be done that are inimical to the safety of human life. That there is much room for improvement in our laws is evident to those who are posted on such

matters, and by the adoption of a method similar to the one above outlined, a measure could be formulated to meet present exigencies and prove beneficial to the business of coal mining and be a credit to our state.

GEORGE BLACKER,
Inspector District No. 1.

ANNUAL REPORT

OF THE

State Coal Mine Inspector

OF

WYOMING

DISTRICT No. 2

W. E. JONES
Inspector District
No. 2

1911

Letter of Transmittal

December 12, 1911.

Hon. Joseph M. Carey,
Governor, State of Wyoming,
Cheyenne, Wyo.

Dear Sir:—

In accordance with custom and the law I herewith transmit to you the annual report of the Second Inspection District of Wyoming for the fiscal year ending September 30th, 1911.

My term of office began the latter part of February, about five months after the close of the last fiscal year, and it may for that reason, be more or less incomplete.

Very respectfully yours,
W. E. JONES,
Coal Mine Inspector, District No. 2.

Annual Report

of the

State Coal Mine Inspector

District No. 2

The fiscal year ending September 30th, 1911, has not been a very prosperous one for the coal operators and mine workers of Northern Wyoming. The panic, industrial depression, or whatever it may be called, fastened itself on the coal industry of this district early in the winter and has remained so until within a few weeks of the close of this report.

In addition to this cause we have a mine in the Big Horn Basin, the Gebo mine, the production and development of which have been seriously hampered on account of litigation begun by the United States government and which is still hanging fire. The state has of course nothing to do with the merits of that controversy but it would seem quite proper for the state to petition the government by some means to hasten such controversies in the interest of our country's development. The coal in the Basin is of excellent quality, such as will insure its successful introduction into the markets of other states. And we can predict with practical certainty a great measure of prosperity for this industry in the Basin country when the government finally withdraws from the field and the Burlington extension from Thermopolis to Orin Junction is completed.

Mining men seem to have great faith in the future of the business in this country notwithstanding the dullness of the year just closed. Several new mines are being opened and money spent freely on improvements to existing mines.

On the Chicago & Northwestern, near the town of Hudson, the Paposia Coal Company is opening a new mine, putting in an elaborate equipment and building about four miles of railroad. The coal here is also of splendid quality and the future of the Hudson district is indeed encouraging to contemplate.

In Sheridan county two new mines have been opened, one of which is producing. The "Model Mine," near Carneyville, is a shaft 150 feet deep, sunk into the "Carney" seam. It is not yet ready to produce. Mr. Stewart Kennedy, a mine engineer of note in this country, is in charge of its development.

The other mine is a slope on Tongue river, about two miles below Carneyville, driven in the "Monarch" seam, so called. The seam at this point runs about twenty-four feet in thickness and is of excellent quality, and the "Carney" seam, so called, is found underlying it just as it is at Monarch. At Carneyville, which place is situated between Monarch and New Acme, the "Monarch" seam is burned out, but the

Carney seam itself is much easier to mine than the same seam is likely to be at either of the other places.

The New Acme mine is being developed on the three entry system and will be worked by panels, thus facilitating the haulage system and insuring the mine's future against fire trouble. It is being equipped throughout with electricity. The coal will be cut by electric chain machines and electric locomotives will be used for inside haulage. An elaborate steel tipple is in course of construction and the mine will be among the big producers in a comparatively short time. The owners, Mr. A. K. Craig, president, and Mr. Ora Darnell, secretary-treasurer, are experienced mining men and nothing of advantage is overlooked either in the inside development or the outside plant. In fact all that is necessary to make Wyoming's coal industry equal some of the large producing states of the east is market for the product of the mines.

During the seven months ending September 30th, I visited the mines a number of times noting deficiencies in ventilation, drainage, timbering, etc., and suggesting improvements where they seemed necessary and possible.

I have to report that in some of our mines I found the conditions that make for sanitation and safety most deplorable, as reports to the managers and now on file in this office will show. And if we are to take the actual conditions as they have been found in mines generally until the miners were able, either through their labor union directly, or through public sentiment as expressed in laws and the enforcement of those laws, as a criterion, we must conclude that the mine operators have been blind to their own interests as well as to the welfare of their underground employes. It is useless and misleading to presume that operators will provide all the essentials to make their mines sanitary and safe because it "pays" to do it, just as it is equally preposterous to suppose that all miners will take all necessary precautions to safeguard their own lives and health. Facts stare us in the face continually and if we are not blind to them then we must admit that no such fortunate condition obtains in this industry any more than in any other. Keen competition between mine operators causes retrenchment and this causes the management to neglect, which in turn results in making conditions bad and, perchance, disaster.

No more daring and heroic people are found than miners. They are so trained by virture of the necessary dangers met constantly and this is as true of the foreigner as of the native born American. A cowrad has no business in a coal mine and is seldom, if ever, found there. Occasionally we read of a miner's heroism in connection with some great mine disaster, but this trait of character is exercised commonly to protect life and property in some form or other and in connection with his daily tasks while earning a living. And all this is done without the aid of a brass band to stir his heart with its martial airs or the cannon's roar and an applauding nation to encourage and enthuse him. It is done singly and unseen of men. No hope of political preferment, no extra remuneration for it, for it is all too common. Sometimes he may take extraordinary risk and his

neighbor may call him a fool, yet the same critic may perchance take a risk equally as hazardous before the day is over. Many of these dangers are unavoidable and the invidual miner's own good judgment must necessarily be his only protection. The state must exercise its authority and privilege. One of the cardinal principles of government is to "protect the weak against the strong," and this is recognized in the statutory laws governing industries, the protection afforded employes in the various industries of every civilized nation.

No great loss of lives occurred through any mine disaster to mar the history of the mines during the past year. The accidents were individual ones, such as occur in every state every year. And it will be observed that carelessness of the individual has played a deplorable part in these. In eighteen cases out of twenty-eight the accident has been the result either of carelessness or of incompetency, the carelessness in most cases resting on the unfortunates themselves. But it is not to be presumed that we are to pass such cases as undeserving of further notice, however, for there is a remedy for many of these even. And that remedy is in greater vigilance on the part of the mine bosses. In too many cases the mine boss spends nearly all his time rustling coal and thus ignores the working faces. If instead he would leave this work to some competent person and himself visit the working places we would see a very material reduction in accidents.

We have said that no lives were lost during the year on account of any mine disaster, although we have a mine disaster to record.

At Monarch mine No. 1 a series of explosion occurred in rapid succession in the latter part of January, so damaging the mine as to put it out of operation for three months. The mine has since been gradually increasing in output until at present it has almost reached its normal tonnage. No lives were lost and none injured, though a few were overcome by the gases and immediately taken out to recover. All of this occurred a month before the present mine inspector assumed the active duties of his office, and at his request Mr. Thomas Allen, mine foreman, has written the following account of it:

"On January 27, 1911, at 5 o'clock a. m., Joe Silla and P. Franklaus, night fire watchers, discovered the seventh west pillar district filling up with smoke and damp. This was reported by them to Harry Laverty, fire boss, who proceeded to investigate and sent Silla outside to report. At 6:50 I received this word from Silla and taking some three or four men proceeded to the affected district and found evidence of fire on one of the intakes. Orders were sent out immediately to reverse the fan and thus drive out the smoke, which was rapidly filling the mine, and the men who had entered the mine were withdrawn by way of the back entry, which, after the reversal of the fan, became the intake airway.

"At 9 o'clock the fire was located on the abandoned sixth west entry, having broken through from the old fifth west pillar workings. Water being not available board brattices were erected to check the air supply but these were burnt out as fast as erected. The fire was gaining rapid headway and the number of openings for its progress at this point made necessary our retreat to a point where fewer stop-

pings were needed to check its advance. We therefore began work on the crosscuts in the chain pillar between the seventh and eighth west entries. These were being built of rock and concrete. During this time the fan was blowing the air over the fire and out through the cave holes; also out through the west openings that had of course been intaking heretofore. Thus the mine was kept clear of smoke and it was worked on the following day, Saturday, the 28th, the stoppings in the meantime being pushed with all possible haste. Work on the stoppings was continued through Sunday. A slight explosion occurred at 1:30 a. m., Monday, which knocked a new concrete stopping over. And so observing that the fire had reached such dangerous proportions I ordered all work on the coal to cease and with 24 men we proceeded to finish the stoppings. At 2 o'clock p. m. the air current became baffled and the men were ordered outside. Guards were placed at all the openings to prevent any one from entering until we should decide what ought to be our next course of action.

"At 2:30 o'clock, less than a half hour after we left the mine, a terrific explosion took place. This proved to our satifaction that it was too hazardous to attempt any further work on the inside, though Harry Laverty, Charles Catterall, Clarence Wiltse and myself entered the mine to a distance of 2,300 feet at 7:30 p. m. of the same day. We found the air still baffled as it had been when we retreated before the explosion. The mine was left unsealed pending Mr. Berkhaeuser's return from the east, whither he had gone some ten days or so before. Tuesday morning, the 31st, another explosion took place, but not so violent a one as that of Monday afternoon. This occurred at 5:30 a. m., and at 2:30 p. m. a fourth and by far the most violent explosion of the series took place. This one hurled mine materials, debris and coal dust out through all of the openings and damaged the fan house. Mr. Berkhaeuser, president of the company, arrived later in the afternoon and a consultation with the available mining men of the district was held. It was there decided to seal up the mine for the time being, which work was commenced at 5 o'clock of the same afternoon. There were no further explosions.

"In my opinion the first explosion was purely a carbon monoxide explosion, caused by an insufficient outlet for the generated but unburnt carbon monoxide. This explosion apparently was not powerful enough to start a secondary dust explosion.

"The second explosion was also a carbon monoxide explosion, initially, but this gas explosion evidently started a dust explosion. This is indicated from the fact that the damage was greatest in the driest parts of the mine. In some of these districts blasting powder in kegs that had been opened was exploded, thus indicating flame at these points. On the ninth and tenth west, cars were piled up in heaps. On the tenth west, a Goodman electric chain machine was blown sixty feet, and thirty-pound rails were torn loose from the ties and doubled up, while the ties were blown beyond recovery. On the eleventh west, miners' tools were picked up, showing that even the smallest tools were subjected to the force of the explosion as well as the larger objects. These places were all dry. On the other hand, at a point on the eigth west, in a room where water dripped from the

roof, there stood a machine and everything remained intact even to the tool box on that machine. On the opposite side from this place, at a point on the seventh west, the explosion swept with its usual violence. On this same seventh west entry, from the rope parting, at the junction on the main slope, to a point nearly a thousand feet up the seventh, where the road had been soaked by a pump overflow, there was no evidence of violence, kegs of spikes having remained undisturbed on this parting. On the east entries, which were more or less wet, no damage was done in the rooms, even the topping on the cars, which were built eighteen inches or more above the beds, remained undisturbed.

"The third and fourth explosions were repetitions of those described. The first explosion, to some extent at least, proved that the dust of the Monarch seam is not excessively explosive, as force enough was expended on the concrete wall that was blown over and which was very large, to start such an explosion, especially in so dry and dusty a district as the seventh west pillar district was known to be.

"THOMAS ALLEN."

It will be seen how near this calamity came to adding a toll of lives to the long list already recorded in our state and nation. The management barely averted an exact repetition of the Hanna disaster. Only the odd pranks of the air itself saved the mine boss and his loyal laborers on that day and Mr. Allen is to be congratulated for exercising judgment to retreat when it was noticed that the ventilation was disturbed. The last explosion hurled rails, ties and other debris hundreds of feet beyond some of the openings through which they came. One thirty-foot rail, thirty pounds to the yard, was carried out through one of the openings to a point several hundred feet beyond and landed with such force as to pierce the frozen ground a distance of about ten feet, the remainder doubling over like a hoop. The doors and brattices were wiped out and no trace left of them.

There was but little timbering in the mine and the damage to roof so common to mine explosions was fortunately absent. It is a very thick seam and the top coal left unmined is consequently thick enough to support itself and the weak shale above it without the aid of props. The main slope, which had been burning for years, and which was timbered for several hundred feet, was destroyed completely and finally sealed up permanently after several attempts were made to re-enter it. The coal is now taken from the mine at a point a mile to the west of the original opening.

This mine had been afire for years, firing soon after the first rooms were worked and the pillars drawn. And the destruction of the mine is due directly to the fires generated in the old workings finally breaking out into the mines and getting beyond control, filling the mine with smoke and gases until the proportion of gas and air reached the explosive point, when the flame touched it off. The slope was driven south and the cross entries were turned away at an angle of 32 degreees and ten minutes to the west. The working rooms were broken off the latter. The first five of these had reached the boundary, the rooms finished, pillars drawn, and the entire dis-

trict sealed off by substantial concrete and rock walls. However, the entire district was afire from one end to the other. The places caved in to the surface and a natural system of ventilation was formed independent of the mine ventilation, through these cave holes, making connections with one another. And thus was oxygen fed to these fires from time to time. During the early fall and winter the pillars connecting the sixth and seventh west entries were partly drawn and abandoned but the crosscuts between the seventh and eighth were not yet blocked with concrete stoppings though the work was in progress. When the fire, therefore, broke out in this district, whether it came from the segregated district or from the one just mentioned, the absence of these walls left the entire mine virtually open to the smoke and gases thus generated and placed the mine at the mercy of the fire. It should be remembered too that the late January weather melted the snow and ice created a condition such as is not anticipated at that time of year. Men familiar with the mine's history expected some fire trouble every spring; and had the thaw come in April, as it generally does, these walls would likely have been in and the disaster perhaps avoided. However, there is some doubt about that since some of the district had caved and a very large district remained open. This left a dangerous magazine to be filled with carbon monoxide, which might have gotten air from cave holes to fire it and the green walls give way under this pressure.

The coal in this district will fire spontaneously in the mine after it is loosened and left in large quantities, as when a place caves where the top coal is thick, as in this mine. The seam is about thirty feet thick and much of it is necessarily lost. The upper part of the seam is very weak to sustain the roof above it and for that reason thousands of tons of coal are buried in all of the old workings. This soon fires after surface moisture reaches it.

The men whose duty it was to watch these fires and keep close watch over the walls separating the open workings from the abandoned district have been charged with neglect and it would seem to those familiar with conditions in the mine that the charge is not unfounded. However, there is a cause back of all this that is of greater import to mining men and that is the system of developing the mine. The system itself is most largely to blame.

As has been indicated there were only two main entries, the rest all being room entries up till within about a year of this disaster. The 7th West, for instance, when it was decided to change over to the panel system, had sixty odd rooms turned off it.and would have had as many again or more before reaching its boundary. The rooms were driven twenty-two feet wide and driven through to connect with rooms driven to meet them. The room centers were forty-five feet apart, thus leaving theoretically at least twentry-three foot pillars. This would seem like an ample pillar ordinarily but as a matter of fact squeezes were not uncommon on account of soft bottom, a very irregular cover, both as to thickness and formation, and weight carried over from a fire district to an adjoining one. Then again in a district near the crop rooms caved to the surface and would fire. So it became evident that all this valuable pillar coal would be lost

if not extracted soon, either by fire or squeeze, or probably both. In addition to this, rooms had been turned off these main entries themselves and in some cases the pillars drawn close to them. In the early history of the mine this was done to hasten the output while alter it was done to extract a triangular piece left on account of the peculiar direction of the west entries with reference to the main.

This mine had a continuous string of fire extending on the west side from within about two hundred feet of the main opening to the top of the 5th West, a distance of about one mile. Many thousands of dollars' worth of rock had beeen taken from the outside quarries during the years in efforts to keep the fires hemmed up but conditions grew continually worse until at the time of the disaster there were five men employed solely to keep watch over these fires.

The coal seams of this district should be developed with a view of guarding against these fires. They cannot always at least be prevented but the mines can be so developed as to reduce them to a possible minimum and in such a manner as to segregate the worked out districts completely and without danger to the mine. This has been done in the Carney mine from the beginning and is being done in these mines generally now. This mine is being worked on the panel system with sufficient pillars left to guarantee safety during the entire life of the mine.

The Monarch mine was changed some time before the disaster but not in time to avert the calamity. It is now being worked on the panel system exclusively. This system has other virtues than the one mentioned and ought to be adopted.

It has been claimed that this calamity was to the company a "blessing in disguise" and that statement is not without some foundation in fact. Practically all the workings were recovered although immense areas of pillar districts were irretievably lost. Panel 70 has been driven at right angles with the old main to connect with it in this 70 entry becomes the new main. The old workings are then walled off, leaving them practically a new mine. They are thus relieved of the long string of fire walls that worried them so many years. Fire raged immediately behind the old walls while the present walls are many fewer and at considerable distances from the heat. From time to time new cave holes appear on the surfaces in these old workings and the management realizes the urgent necessity of keeping constant vigilance over these to avoid new conflagrations.

I have given this case much space because it is the first of the kind in this district; and contains, I believe, information of value to the mining craft.

The government rescue car was called from Billings and remained on the ground several weeks. Mr. Wolfline, mining engineer, was in charge of the car and together with his assistants gave valuable service during early explorations into the mine. Mr. A. K. Craig, mining enegineer and president of the Acme Coal Co., also rendered valuable aid until the mine was finally recovered and in running order again. The government rescue car officials took samples of the dust taken from the ribs for analysis but up to date we have no word from them concerning their findings.

We might add here that Mr. Allen has been severely criticized for reversing the fan when he did because it thus drove fresh air onto the fire, but his critics overlook the fact that it would have been impossible to fight the fire from the inside at all had he not done it. He has been criticised with better reason for not having reduced the speed of the fan after reversing it but here again he gives as his reason for not doing that the idea of keeping the volume of air so high as to prevent the accumulation of dangerous gases. However, as he says himself, the outlet was not able to care for these gases and smoke and in consequence the mine did fill up and the gas exploded. It was a desperate and dangerous situation any way you take it and the dauntless bravery of the miner was fully exemplified.

At the time of the disaster this mine was producing 2,500 tons daily and considering the obstacles encountered it is remarkable that it has by this time again passed the 2,000 ton mark.

Accidents.

April 25, 1911—Igo Tudorovic, Servian, 40 years, miner, killed, No. 4 Cambria. Fall of rock on roadway over car which he was loading. Lived two days. His own carelessness or incompetency. Had worked for company three weeks. Married. Wife only.

Sept. 25, 1911—Ferdinand Vansina, Belgian, 20 years, driver, injured, No. 4 Cambria. Fell off front of car and was slightly injured. Should have beeen riding behind. Own carelessness. Had worked for company ten months. Single.

June 20, 1911—Frank Welsh, American, 32 years, dumper (outside), injured, Monarch. Was attempting to stop belt by pressing his hand on it, the engine having stopped but the pulley still being in motion. Left hand was drawn into wheel and wrist broken before it could extricated. Recklessness. Had worked for the company seven years. Married, wife and child.

June 19, 1911—Samuel Ringo, American, 23 years, coupler, injured, Monarch. Horse started unexpectedly on parting, swung around excitedly and tail chain struck Ringo on head causing flesh wound. Accident. Worked for company eighteen months. Single.

Jan. 13, 1911—Victor Gordon, Montenegro, 25 years, tipple hand, injured, Monarch. Was fixing door on box car near shute when another car struck it causing left thigh to be pinched between car and shute. Carelessness of someone in connection with the car behind him. Had worked for company three years. Single.

Jan. 14, 1911—Harry Jones, American, 16 years, motor brakeman, injured, Monarch. Attempted to board motor while in motion, after closing switch, inside mine, missed his footing and wheel passed over left fooot, crushing it so badly that four toes and part of instep were amputated. Misjudged motor and blames no one except himself. Had worked for company two years or more, supporting mother and family of children.

April 10, 1911—Joe Drung, Polish, 26 years, driver, injured, Monarch. Threw tail chain on back of horse and was kicked on face, causing flesh wound. Had been warned against this danger but heeded not. Carelessness. Had worked for company four years. Single.

May 12, 1911—M. Kuruski, Polish, — years, driver, injured, Monarch. Attempted to ride horse from mine to stable, was thrown and his collar bone broken. Recklessness. Had been in employ of company three years. Single.

April 14, 1911—Carl Bonditz, American, 24 years, machinist (outside), injured, Monarch. Grinding piece of work on emery wheel when "rest" on wheel became loose causing piece to drop between "rest" and wheel, thus taking the left hand with it. Third finger amputated at first join. Accident. Had worked for company eighteen months. Single.

Sept. 30, 1911—John Manzak, Russian Austrian, 37 years, miner, injured, Carney Mine No. 1. Was called from his own place, an entry stump, to assist adjoining neighbors to push out loaded car to save its being buried by fall of top coal. Some coal fell and struck him on the head and other parts, causing wounds about the head and face and spraining an ankle. Anxiety to save property. Had worked for company four years. Married, five in family.

July 14, 1911—Percy Joice, English, 29 years, miner, injured, Kooi mine. Fell off an overcast upon which he was working, fracturing three ribs on left side and bruising left leg above knee. Carelessness in getting too near edge and thus falling. Had worked for company ten months. Married, two children in England.

Aug. 25, 1911—Edward Quigly, American, 20 years, motorman (outside), injured, Monarch. Was in act of running empty trip into siding, riding with left foot outside of motor, when foot was caught and pinched between motor and loaded car standing on main line, there being not sufficient clearance to allow him to pass. Heel severely bruised. Error in judgment. Had been in employ of company for five years. Single. Helping support family.

Aug. 23, 1911—Trinko Ileff, Macedonian, 21 years, motor brakeman, injured, No. 3 Cambria. Jumped off a trip while it was in motion to set brakes, stepped on piece of coal, stumbled and fell. Car wheel caught his left leg, causing a wound and otherwise bruising him. Unavoidable accident. Had worked for company five years. Single.

July 23, 1911—George Street, American, 36 years, boss carpenter, injured, Monarch. Stepped on a partially concealed slash bar near blacksmith shop, slipped and fell, fracturing a bone in wrist of left hand. Unavoidable accident. Had worked for company four and a half years. Married, three in family.

Aug. 17, 1911—James Lynch, Jr., American, 15 years, greaser (tipple), injured Gebo. Was climbing down braces on tipple when within eight feet of ground fell, dislocating his right wrist and breaking a small bone in it. Recklessness. Had worked for company month and one half.

July 10, 1911—Farnk Pardyl, Austrian, 22 years, miner, killed, Dietz No. 2. Was mining about the middle of the seam on a room stump, where, on account of a squeeze, the coal worked easiest, when suddenly the overhanging coal broke off without warning and fell on him, causing instant death. Incompetency or carelessness. Worked for company two months. Single.

July 18, 1911—Anton Mandrake, Austrian, 34 years, miner, injured, Dietz No. 2. Right arm broken, middle third of humerus and right hip dislocated. Coal and black jack fell without warning while men were loading car. His partner was killed at same. Worked for company eleven years. Unavoidable accident. Married, five in family Family in Austria.

July 18- 1911—Mike Stednitski, Austrian, 34 years, miner, killed, Dietz No. 2. Was loading car when black jack and coal left up to support the black jack suddenly fell, injuring him so badly that he died four days later. Place was reasonably well posted although another post or two could have been set in position of advantage had the men considered it necessary to protect themselves further than they had. There was a general squeeze over the district here, creating an abnormal condition which doubtless they had not taken into consideration. Any miner, however experienced, might have been caught in the same trap. It is therefore an unavoidable accident. Had worked for company two years. Married, family in Austria. Six in family.

Sept. 18, 1911—Frank Kummer, Austrian, 23 years, rope rider, killled, Paposia mine, Hudson. Head crushed against rooof about fifty feet from face of main entry. Cause of accident unknown but possible that trip was stopped suddenly, thus throwing him violently against the roof. Other theory is that he raised his head too high while trip was in motion, thus striking it against the roof. Had been in employ of company six weeks. Single.

June 17, 1911—Robert Brown, American, 36 years, rockman, injured, No. 3, Cambria. Was taking down loose rock on main parting placed his hand on side for temporary rest, small piece of rock struck him on shoulder. Injured his knee and otherwise bruised himself in attempting to avoid any more rock falling on him. Had been in employ of company six months. Unavoidable accident. Single.

June 10, 1911—Gasper Paulmitz, 51 years, miner, injured, Sunset Coal Co., Lost Springs, P. O. Slate fell from roof striking the shovel in his hand with such force as to cause a dislocation of the knee by the handle striking it. Single.

May 26, 1911—Mike Yasher, Slavish, 25 years, miner, injured, Dietz No. 2. Was running car down room. Car jumped the track, knocked out props, causing blackjack to fall, thereby injuring him. Worked for company five years outside, only three days inside. Incompetent. Married.

May 16, 1911—John Kassik, 19 years, American, helper on cutting machine, injured, Gebo. Injured by fall of coal, the runner being killed at the same time. Coal had been shot twice, on the rib and across the face, having stood in spite of both blasts. Machine men had tried it on the previous afternoon, failing to take it down and concluding it was safe, they did some cutting under it. Following morning they went to work and took for granted, when soon after they started their machine it fell. This is a case of oversight. The cutting done around it the previous day, together with the time it had to "draw" overnight, made it dangerous which the unfortunate men must have overlooked. Single.

May 16, 1911—Joseph Kassik, American, 26 years, machine runner, killed, Gebo. Was killed by fall of coal. Coal had been shot twice, once in the rib and again across the face. Deceased had worked under it on the previous afternoon after having it in the customary manner. On the following morning he started working without making additional test. In the meantime, however, it had loosened and soon after the machine was started it fell, fatally injuring Joseph and slightly injuring his brother, John. Married, leaves wife. Employed by company fifteen months.

April 22, 1911—George Kiechko, Austrian, 21 years, miner, injured, Dietz No. 2. Was injured by fall of coal and blackjack. He knocked a prop out to get some loose coal and thus pulled the stuff down on himself. In employment of company seven months. Incompetent beyond question.

July 1, 1911—Frank Pullano, Italian, 45 years, miner, injured, Carney Mine No. 2. Injured by being struck by a piece of broken prop and flying coal from a shot that was fired in an adjoining room, breaking through the pillar. Parties firing the shot claim to have given the injured man reasonable warning. Pullano and his partner admit being notified but not in time to save Pullano from the shot. Be that as it may. Yet the miner ought to take the precaution to see that others are beyond question out of the dangers from their shots. But unfortunately, sometimes the anxiety to get out of the mine is so common to the craft, leads some men occasionally to take foolish chances themselves and perchance others in one way or another. None can appreciate the force of this statement as well as miners themselves, experienced miners. Concerned in this incident are experienced miners, the injured man himself having worked for this company three years. Married, five in family.

May 10, 1911—Isaac Hakala, Finlander, 32 years, timberman, injured, Cambria No. 4. Was riding in motor trip, going from No. 3 to No. 4 mine. tood up in car and first set of timber in drift mouth struck him on the head slightly injuring him. Carelessness. Eight months in employ of company. Has wife and child.

Sept. 17, 1911—Rado Kaksich, Montenegro, 34 years, timberman, injured, Monarch. Was riding on motor against rules. Jumped off and had foot caught by motor, breaking small bone in foot. Worked for company intermittantly for about five years. Wife and three children at Monarch.

Fatal Accidents.

April 25. 1911—Igo Tudorovic, Servian, 40 years, miner, No. 4, Cambria.

May 16, 1911—Joseph Kassik, American, 26 years, machine runner, Gebo.

July 10, 1911—Frank Pardyl, Austrian, 22 years, miner, No. 2, Dietz.

July 18, 1911—Mike Stednitski, Austrian, 34 years, miner, No. 2, Dietz.

Sept. 18, 1911—Frank Kummer, Austrian, 23 years, rope rider, Paposia mine, Hudson.

Non-Fatal Accidents.

Jan. 13, 1911—Victor Gordon, Montenegro, 25 years, tipple hand, Monarch.

Jan. 14, 1911—Harry Jones, American, 16 years, motor brakeman, Monarch.

April 10, 1911—Joe Drung, Polish, 16 years, driver, Monarch.

April 14, 1911—Carl Bonditz, American, 24 years, machinist (outside), Monarch.

April 22, 1911—George Kiechko, Austrian, 21 years, miner, Dietz.

May 10, 1911—Isaac Hakala, Finlander, 32 years, timberman, Cambria.

May 12, 1911—M. Kuruski, Polish, — years, driver, Monarch.

May 16, 1911—John Kassik, American, 19 years, machine helper, Gebo.

May 26, 1911—Mike Yasher, Slavish, 25 years, miner, No. 2, Dietz.

June 10, 1911—Gasper Paulmitz, Austrian, 51 years, miner, (Sunset Coal Co.) Lost Springs P. O.

June 17, 1911—Robert Brown, American, 36 years, rockman, No. 3, Cambria.

June 19, 1911—Samuel Ringo, American, 23 years, coupler, Monarch.

June 20, 1911—Frank Welsh, American, 32 years, dumper, (outside), Monarch.

July 1, 1911—Frank Pullano, Italian, 45 years, miner, Carney No. 2

July 14, 1911—Percy Joice, English, 29 years, miner, Kooi.

July 18, 1911—Anton Mandrake, Austrian, 34 years, miner, No. 2, Dietz.

July 23, 1911—George Street, American, 36 years, boss carpenter, Monarch.

Aug. 17, 1911—James F. Lynch, Jr., American, 15 years, greaser, (tipple), Gebo.

Aug. 23, 1911—Trinko Ileff, Macedonian, 21 years, motor brakeman, No. 3, Cambria.

Aug. 25, 1911—Edward Quigly, American, 20 years, motorman, (outside), Monarch.

Sept. 17, 1911—Rado Kaksich, Montenegro, 34 years, timberman, Monarch.

fffSept. 25, 1911—Ferdinand Vansina, Belgian, 20 years, driver, No. 4, Cambria.

Sept. 30, 1911—John Manzak, Russian Austrian, 37 years, No. 1, Carney Mine.

Fatal, 5; non-fatal, 23.

Killed, outside, none; killed, inside, 5; injured, ouside, 7; inside, 16.

Kinds of Accidents and Number of Each.

Injured by fall of coal.

Injured by fall of rock.

Injured by fall of roof (coal or blackjack, or both).
(Total roof proper, 8.)

Injured by car.

Injured by machinery.

Injured by animals.

Injured by shot through pillar.
Injured by Miscellaneous.
Injured by motor cars.

By fall of coal is meant coal hanging to the face.

Total injured by roof then is actually 8.

Rejort of fatal and non-fatal accidents at coal mines in the State of Wyoming for the year ending September 30, 1911, District No. 2; form adopted by National Institute of Mine Inspection:

W. E. Jones, inspector.

Average number of employes underground, no separate data.

Average number of employes outside, no separate data.

Sum total inside and outside, 1,691.

Number of separate accidents in which one or more were killed or injured, 26.

Number of wives left widows, 3.

Number of children left dependent, 5.

		Killed.	Injured.
1.	Number of persons killed or injured inside of mines:		
(a)	By fall of roof	2	6
(b)	By falls of coal	2	1
(c)	By mine cars	1	2
(d)	By gas explosions	0	0
(e)	By dust explosions	0	0
(f)	By explosives	0	0
(g)	By suffocation from mine gases	0	0
(h)	By electric shock	0	0
(i)	By animals	0	3
(j)	By electric machinery (motors, mining machines)	0	3
(k)	By gases from mine fires	0	0
(l)	By explosion of shots	0	0
(m)	By shot through pillars	0	1
(n)	By explosion of oil	0	0
(o)	By other causes	0	0
	Total	5	16
2.	Number killed or injured by shaft accidents:		
(p)	By falling down shafts or slopes	0	0
(q)	By objects falling down shafts or slopes	0	0
(r)	By breaking of cables or chains	0	0
(s)	By overwinding	0	0
(t)	By other causes	0	0
	Total	0	0
3.	Number killed or injured outside of mines:		
(u)	By mine cars	0	0
(v)	By electricity	0	0
(w)	By machinery	0	2
(x)	By boiler explosions	0	0
(y)	By railway cars	0	1

(z)	By other causes	0	4
	Total	0	8
4.	Gross total killed or injured	5	23

Total number days' labor performed at mines, no data.

Number killed or injured:

(a) By own carelessness 18
(b) By others' carelessness 2
(c) By pure accident 8

Production for Year Ending Sept. 30, 1911.

Sheridan County Mines.

In this county there are fifteen mines that have produced more or less coal from time to time and another being opened, making sixteen in all. Some of these were intended to be large shippers but were abandoned for one reason or another. And we might note right here that failure to test the coal area properly is responsible for the expenditure of large sums of money in mines that were later abandoned.

The mines producing during the year are:

The Sheridan Coal Company's mines, No. 2 and No. 4, Dietz.
The Wyoming Coal Company's mine, No. 1, Monarch.
The Carney Coal Company's mines, No. 1 and No. 2, Carneyville.
The Kooi mine, Kooi.
The Acme Coal Company's mines, No. 1 and No. 2, Acme.
The Acme Coal Company's mine, No. 1, New Acme.
The Nelson Coal Company's mine, near Sheridan (country trade).
The Black Diamond mine, near Sheridan (country trade).
The Riverside mine, Riverside (country trade).
The Model Coal Company is developing a shaft mine near Carneyville and will be shipping to all available markets before the next report from this office is prepared.

Weston County Mines.

The Cambria Fuel Company's mines, No. 1, No. 3, No. 4, and the Jumbo, Cambria.

Big Horn County Mines.

The Owl Creek Coal Company's mine, Gebo.
The Big Horn Collieries Company's mine, Crosby.

Fremont County Mines.

Hudson Coal Company's mine (Indian mine on Reservation) near Hudson.

Paposia Coal Company is developing a mine about four miles southeast of Hudson and is producing at the present time. It is also destined to be one of the large producers of the district.

Converse County Mines.

The Rosin Coal Company's mine, about eight miles from Lost Springs.
The Sunset Coal Company's mine, about two miles beyond the Rosin.
The Lost Springs Coal Company's mine, Shawnee.

Crook County Mines.

The Stillwell Coal Company's mine, Aladdin.
New mines opened or partially opened during the year, three:
The New Acme mine, New Acme.
The Model mine, Carneyville.
The Paposia mine, Hudson.

Production for Year by Mines.

(Per ton of 2,000 lbs.)

Sheridan Coal Company, No. 2 mine:	
Lump coal, tons	4,721.75
Nut coal, tons	7,068.10
Mine run coal, tons	95,022.20
Slack coal, tons	11,230.60
Total tonnage	118,042.65
Sheridan Coal Company, No. 4 mine:	
Lump coal, tons	13,199.35
Nut coal, tons	18,658.75
Mine run coal, tons	53,156.70
Slack coal, tons	11,535.25
Total tonnage	96,550.05
Grand total for the Dietz mines tons	214,592.70
Kooi mine:	
Lump coal, tons	43,362.50
Nut, egg, nut-run, egg-run, slack, tons	86,970.00
Mine run, tons	65,092.14
Total tonnage for the Kooi mine	195,424.64
Acme Coal Company—Acme mine No. 1:	
Lump coal	20,681.70
Nut coal	4,014.10
Mine run	47,362.00
Slack	18,448.00
Screenings (2 1-2)	2,503.00
Total tonnage	93,009.80
Mine No. 2 (New Acme):	
Mine run	13,128.65
Total tonnage	13,128.65
Total tonnage for Acme mines, tons	106,137.45
Wyoming Mining Company (Monarch) Mine No. 1:	
Lump coal	24,070.00
Nut coal	15,865.00
Mine run	153,405.00
Slack	32,032.00
Egg	16,066.00
Pea	18,431.00

Engine	52,225.00
Total for Monarch, tonnage	312,094.00
Carneyville Company (Carneyville) Mines Nos. 1 and 2:	
Lump coal	83,762.00
Nut	29,166.00
Mine run	122,036.00
Slack	29,895.00
Total for Carney mines, tons	264,859.00
Big Horn County—Big Horn Collieries Company's mine at Crosby:	
Lump coal, tons	26,600.00
Nut coal, tons	6,200.00
Slack, tons	11,200.00
Other grades, tons	13,600.00
Total for Crosby, tons	57,600.00
The Owl Creek Coal Company's mine:	
Lump coal, tons	38,550.00
Nut coal, tons	4,194.00
Mine run, tons	32,194.00
Slack, tons	21,131.00
Egg coal, tons	5,296.00
Mixed egg and nut, tons	16,731.00
Total for Gebo, tons	118,096.00
Crook County Mine—The Stillwell Coal Company's mine:	
Mine run, tons	1,000.00
Converse County Mines—Lost Springs Company's mine:	
Lump coal, tons	315.00
Nut coal, tons	25.00
Mine run, tons	1,530.00
Slack, tons	214.00
Total for Lost Springs mine, tons	2,084.00
Rosin Coal Company's mine:	
Lump coal, tons	2,000.00
Nut coal, tons	2,500.00
Mine run, tons	800.00
Slack, tons	000.00
Total for the Rosin Coal Co. mines, tons	5,300.00
Weston County—The Cambria Fuel Company's mines; Jumbo Mine:	
Crushed coal, tons	14,382.25
Slack, tons	3,708.60
Total for this mine, tons	18,090.85

Mine No. 1:	
Crushed coal, tons	64,056.10
Slack, tons	16,517.60
Total for this mine, tons	80,573.70
Mine No. 3:	
Crushed coal, tons	99,114.05
Slack, tons	25,557.75
Total for this mine	124,671.80
Mine No. 4:	
Crushed coal, tons	82,511.10
Slack tons	21,276.45
Total for this mine, tons	103,787.55
Grand total for the Cambria mines, tons	327,123.90
Fremont County—	
"Indian Mine," (Hudson) ,tonnage	123,281.00
Johnson County—	
Estimated tons	5,000.00
Country Mines Other than Johnson County—	
Estimated, tons	7,000.00
Total by counties as reported:	
Big Horn	175,696.00
Crook	1,000.00
Converse	7,384.00
Fremont	123,281.00
Sheridan	1,098,108.74
Weston	327,123.90
Estimated for all country mines	12,000.00
Total for District, tons	1,744,593.64
Output for previous year, tons	1,953,919.00
Output for last year, tons	1,744,593.64
Decrease for last year, tons	209,325.36

This decreased output it will be noted affected the Sheridan and Weston County mines.

Average Number of Men Employed for Year.

Carney mines, No. 1 and No. 2	250
Monarch mine	285
Acme	93
New Acme	15
Rosin mine	26
Lost Springs mine	20
Gebo mine	95
Crosby mine	75