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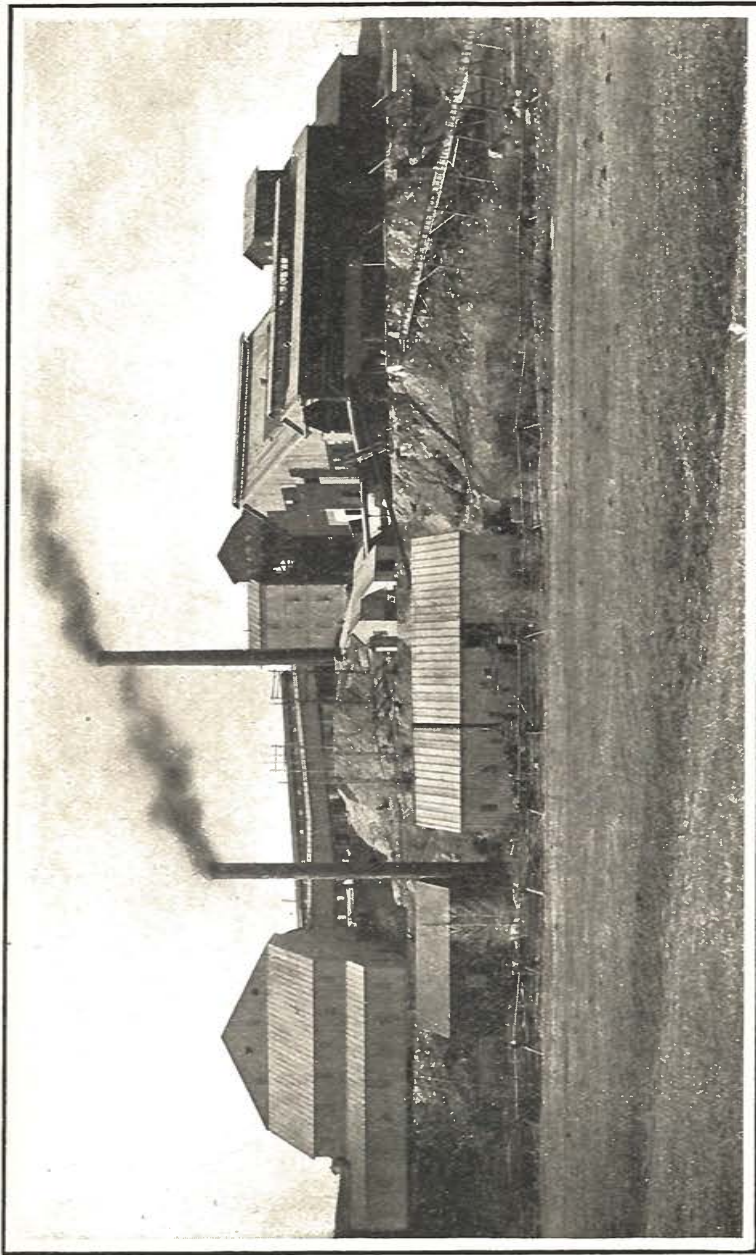
WYOMING MINES

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HENRY C. BEELER
STATE GEOLOGIST

WYOMING MINES - 1907



View of the Concentrator and Smelter of the Penn-Wyoming Copper Company, at Encampment, Southern Carbon County, which was recently rebuilt and now producing Blister Copper.

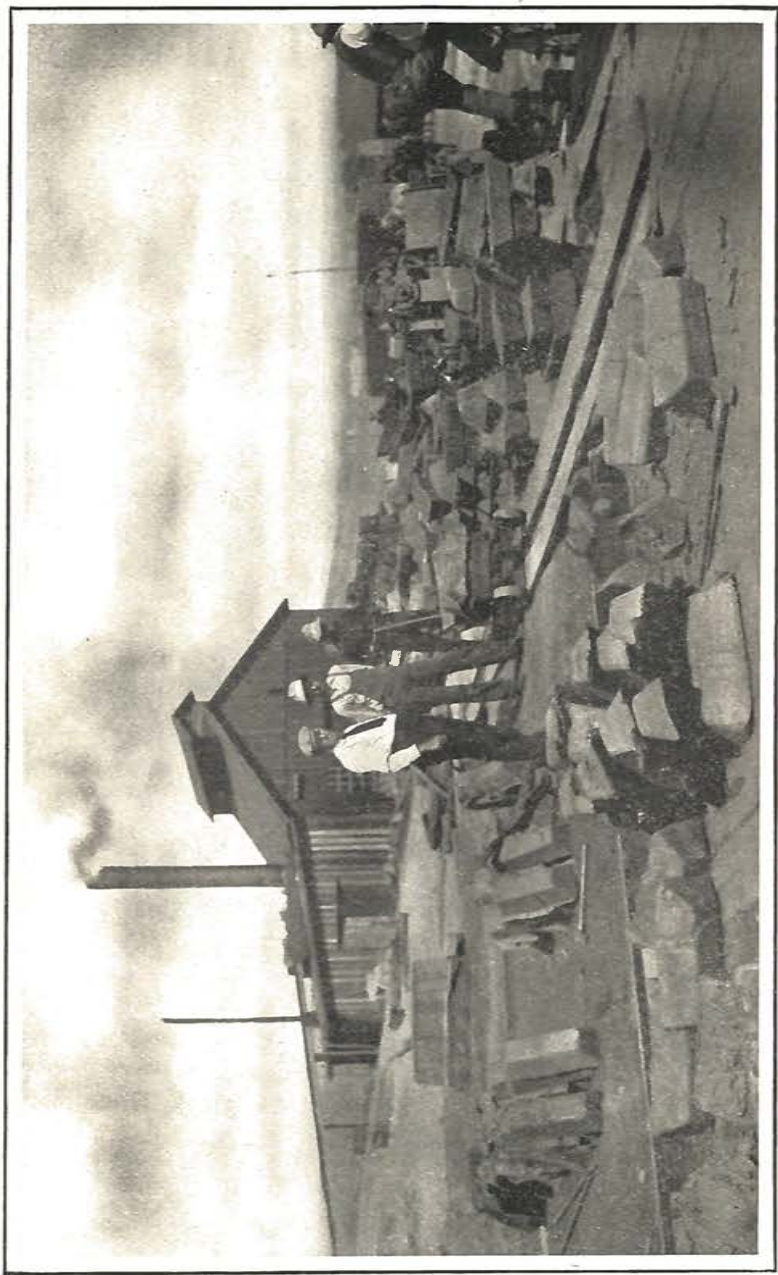
WYOMING MINES

1907

A Summary of the Conditions and Progress in the Copper,
Gold, Placer, Iron, Asbestos, Sulphur, Stone, Plastic
Minerals, Gravel, Oil, Natural Gas,
and Coal Industries

HENRY C. BEELER,
State Geologist



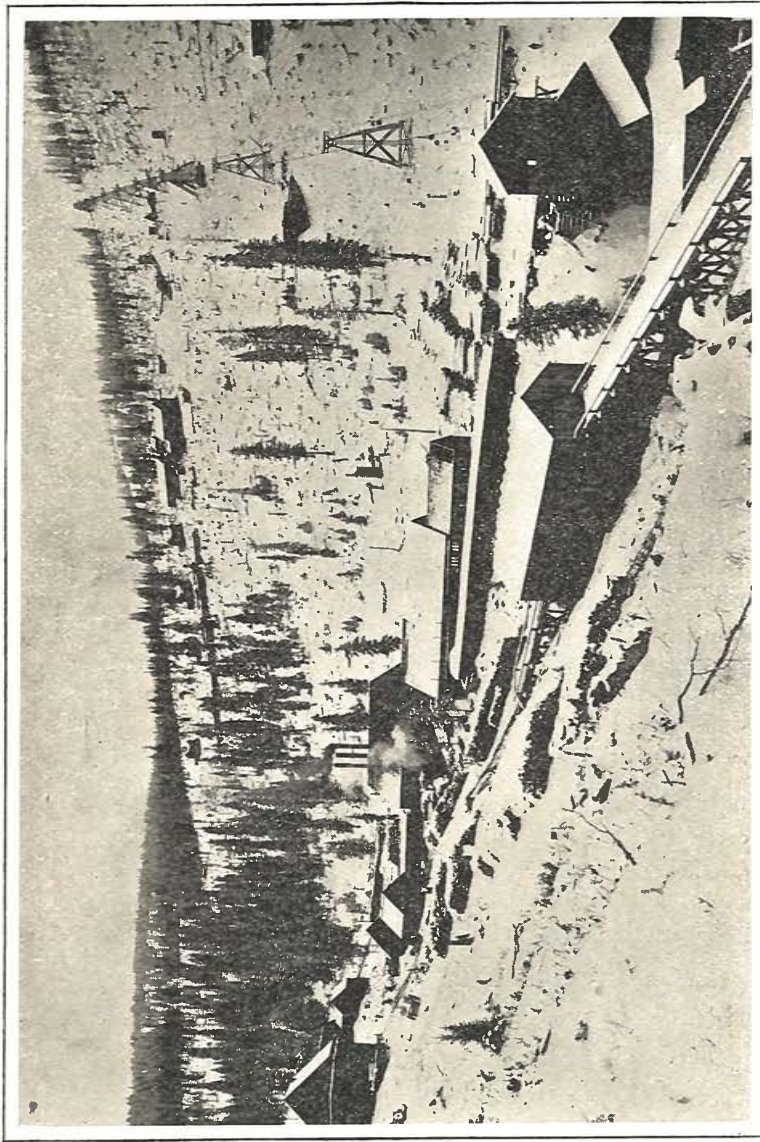


View of the Shipping Floor of the Smelter of the Penn-Wyoming Copper Company, at Encampment, in Southern Carbon County, showing pigs of Blister Copper ready for shipment.

The matter contained in this pamphlet was written for the newspapers and was intended to show the general progress throughout the state during the year 1907, but later it was suggested that it be issued for general circulation, in answer to many inquiries received. The illustrations were selected from cuts at once available and are given to show the recent and prominent features of the Wyoming mineral industry, whether mentioned in the text or not.

HENRY C. BEELER,
State Geologist.

CHEYENNE, WYO., January, 1908.



A General View of the Ferris-Haggarty Mine of the Penn-Wyoming Copper Company, at Dillon, Southern Carbon County, which has produced a couple of million of dollars, and there is more in sight at the present time.

Progress in the Wyoming Mines, 1907

HENRY C. BEELER, STATE GEOLOGIST.

New lines of railroad that cut down prohibitive wagon haul rates to a commercial proposition, new districts opened up to location as mineral and agricultural land, rebuilding of smelters destroyed by fire, on a larger and more complete scale than before, and the actual prospect of the building of more new railroads to connect up the existing lines, in the near future, are, in a word, the causes of the progress made in Wyoming mines in the year 1907.

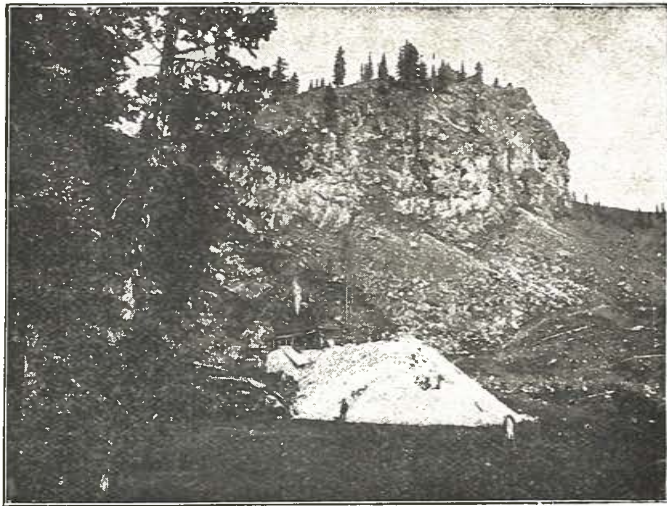
The smelter and concentrating mill owned by the Penn-Wyoming Copper Company at Encampment, in Carbon County, has had two disastrous fires, which practically wiped out the entire plant and stopped production for a whole year, but this has been rebuilt as a complete first-class plant of 1,000 tons daily capacity and is now making blister copper more economically than ever. This company has completed the Saratoga and Encampment railroad, 44 miles, from Walcott station, on the Union Pacific railroad, south to Saratoga and Encampment, and this enables all the material for the whole Southern Carbon County section and part of North Park, in Colorado, to be brought in at a cheaper rate than ever before, and permits properties to operate that have been idle for some years, due to high cost of the necessary wagon haul, on everything in and out.

COPPER.

The two mines of the Penn-Wyoming Copper Company, the Ferris-Haggarty and the Doane-Rambler, are in active operation. In the former some new ore shoots have been opened and the mine bids fair for a greater production than ever, as it has been put in first-class physical shape and the ore handled at a less cost per ton. Diamond drill prospecting has been going on



General View of Shaft and Tunnel House at the Doane-Rambler Mine, Southern Carbon County.



View of the Main Tunnel of the Pluto Gold and Copper Mining Company, near Dillon, in Southern Carbon County.

in the lower levels of this mine this year, exploring the adjacent formations for parallel ore shoots, but the results have not yet been given to the public. In the Doane-Rambler mine, work has been confined to reopening the working levels, putting them in shape for a large production and connecting the mine with the sixteen-mile overhead tramway, which transports the ore from the Ferris-Haggarty mine to the Encampment smelter and the railroad. There is no reason why an active production campaign should not be made, and the management of this enterprise is to be congratulated on what it has accomplished, in the face of what appeared to be almost insurmountable difficulties, in the way of fires, scarcity of labor, financial depression and an arbitrary and needless decline in the price of copper, which occurred just as it had completed its new works and was prepared to produce at a handsome profit.

This new smelter and railroad have made the future of the Encampment district a certainty, as there has never been any doubt as to the ores here, and new work is going on all over the district.

A new smelter is also being erected at the Independence property, near Dillon, by Granberg and associates, to smelt the ores of the Granberg properties, as well as custom ores from the Congo, Batchelder and nearby properties, which are in shape to produce.

The Rambler Basin, where the Doane-Rambler is situated, has also been the scene of important development work and new strikes, as the Portland mine, under the direction of W. C. Ledbetter, has cut back to the contact of the granite and schist formations and opened up a huge ore body of commercial grade copper ore; a new shaft is being sunk on this contact to open up the ore at a greater depth, and the work is one of the most important accomplished in this section for some time.

Near the Portland property is the West Virginia-Wyoming Company, which has recently purchased a group of claims on a similar contact, and is sinking a shaft, but cut into a body of ore rather unexpectedly, and is now developing one of the best showings in the Rambler Basin.

South of this section the Itmay mine has made a great showing, and further developments are under way at this time, which bid fair to open up one of the largest properties in this

region. A 350-foot shaft has been sunk on the vein, drainage tunnel run to connect, and deeper work planned on a copper-bearing vein, showing up to eight feet wide. This is one of the properties held and operated by local capitalists, and no outside stock has been sold.

Near by, the Century Mining Company has acquired a group, covering the extension of the Verde mine ledge, and is putting in a plant for deep work next spring. South of this the Three Forks District is active, and here the Snake River Consolidated Mining Company has acquired all of the Pease holdings, and is pushing development work in the Three Forks tunnel to prepare for a deep shaft and equipment in the spring.

The Two Toms property has come into prominent notice by reason of a strike in its workings and the owners are pushing development steadily.

The Charter Oak mine has been doing development work only this year, though one small car of fifteen tons was shipped for test purposes and returned 18.26 per cent copper, with \$3.40 per ton in gold. Work has been confined to the main shaft and drifts on the vein, and to the long working tunnel, where a five-foot vein of promising ore was recently cut. Final payment on this mine is to be made February 1st by the Copper Bar Mining Company, who have had a bond for the past two years from J. B. Hassett of Saratoga, Wyo., the owner.

The Elkhorn property, on Elk Mountain, has also attracted attention, as here the work has been done on copper showings, adjacent to the contact of the granites and the overlying sedimentary formations, and the present work indicates that the shoot now opening up will lead to this contact, where larger ore bodies may be expected. Should this prove to be the case, it will mean a great deal, not only to the Elk Mountain region, but also to a number of the similar isolated mountains throughout the state, where the same conditions are noted, and where copper has been found in the adjacent limestones and quartzites. A similar proposition is being financed by Lincoln, Nebraska, capitalists, at a point thirty miles north of Cokeville, in Uinta County, in a hitherto neglected section, from a mining standpoint.

Another important work, that is demonstrating a theory which means much to Wyoming, is that of the Shawnee Consolidated Mining Company, on French Creek, about twenty-five



View at New Rambler Mine, Albany County, now being reopened for production.



VIEW AT CUPRITE PROPERTY, ALBANY COUNTY.



ORE DUMP, MAUDEM MINE, ALBANY COUNTY.

miles east of Encampment, in the Medicine Bow Range. Here there is an occurrence of a huge ledge, showing oxidized iron on the surface, lying between a schist and a quartzite, and with an occasional small showing of copper at various points along its length. The Shawnee Company has sunk a shaft to a depth of 210 feet and has passed through the oxidized condition and into a mass of iron sulphides and pyrrhotite. For some distance these minerals were apparently barren of all copper, but at a greater depth, small showings of copper began to appear as streaks and specks in the pyrrhotite, and small pebbles of quartz, of a peculiar, bright, lively tint, came in also, and at the present depth, both the quartz and copper sulphides are markedly on the increase as depth is gained, indicating that the original theory was entirely correct, and that these ledges in the Wyoming ranges carry huge bodies of low grade commercial copper ores.

Similar ledges exist in many parts of the state, especially at Laramie Peak, in Albany, Laramie and Converse Counties, where the Three Cripples mine shows the same condition, also the Maggie Murphy property, near by, the recent work on the former showing a great deal of copper in the pyrrhotite, which was barren at the surface. The Laramie Peak region shows a number of these huge ledges, and it only awaits the demonstration of deep ores by one property to cause general development, as a number of mining people are watching developments very narrowly.

In this vicinity, also, the Esterbrook Company has recently completed a reorganization of its affairs, and is in shape to commence active work on its property, which has a 335-foot shaft on a fissure vein, showing copper and lead, and a number of side veins, which have been cut by the lower workings, and promise well on development. A mill is to be built on this property in the next year. Near by is the Snowbird property, held by a number of the Esterbrook people, who have completed plans for an active development campaign on a large copper-bearing ledge lying in a diorite-granite-schist formation of a different character than the other copper ledges of this locality, and which is considered as a very promising property for copper and gold.

The Laramie, Hahns Peak and Pacific railroad has completed its roadbed to Centennial, to which point trains run reg-

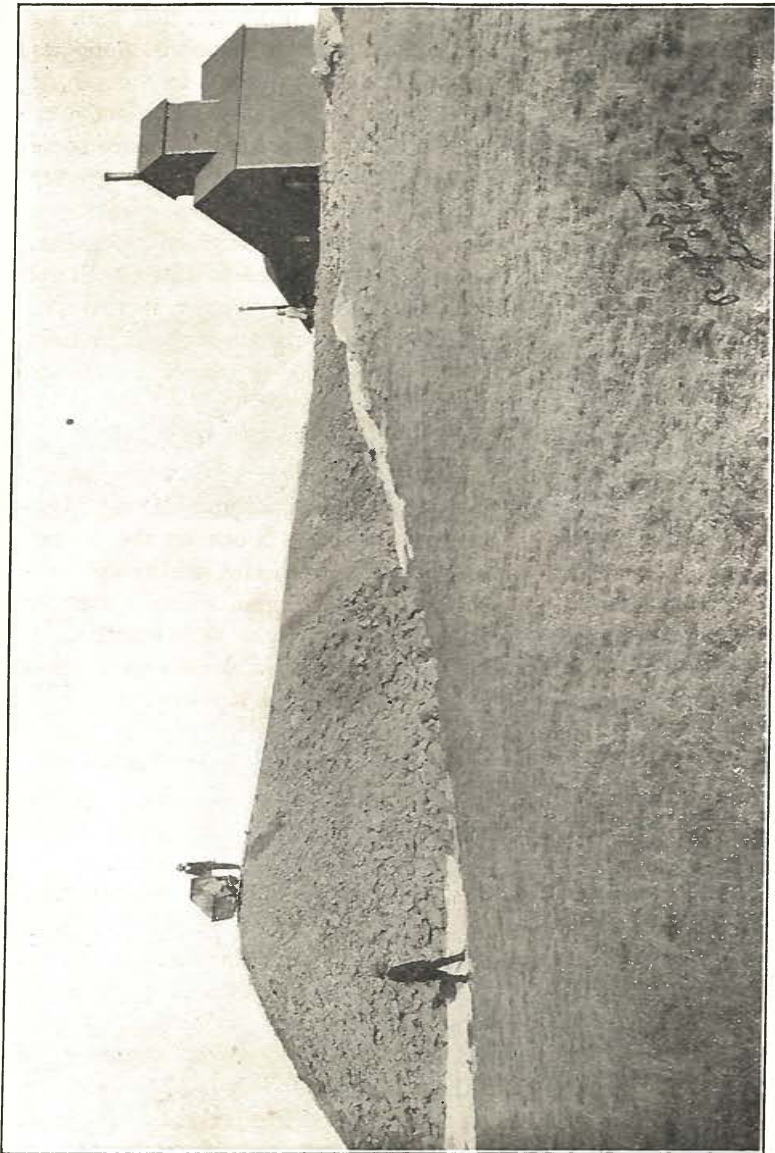
ularly, and the road has developed an unexpected volume of business. Construction work is under way to extend the road south into the North Park country, in Colorado, for coal and other fields there, and to serve the mines of the Medicine Bow Range, south of Centennial. At the latter point, and the Snowy Range above, there has been a great deal of activity in new and old properties, and a number of mines are expected to enter the shipping class before spring.

East of Laramie the Strong mine has developed copper ores to the point of a mill, but the destruction of the surface works by fire, last July, delayed the building of the mill, and cost valuable time. Plans for the reduction plant have been drawn and a syndicate of the old mine stockholders is being formed to finance its erection, as soon as the weather permits, in the spring of 1908. This will be a concentrating mill, with special reference paid to the saving of the fines, based on the best milling practice of modern copper mills, and, as the first practical mill in the southern Laramie Hills, this plant will mean a great deal to the owners of prospective producers of copper in this locality.

In the central part of the state there has been more actual activity and more work accomplished than for many years. This is due to the building of the Wyoming and Northwestern railroad from Casper to Lander, one hundred and fifty miles, thus bringing the Rattlesnake Range, Sweetwater Valley, Copper Mountain and the Owl Creek new camps all within easy reach of the railroad, and bringing the South Pass District within thirty-five miles of rail transportation, instead of one hundred miles, as heretofore.

South of this railroad the Rattlesnake Range has attracted a great deal of attention, and some promising copper finds are reported. West of this section the small granite hills along the Sweetwater River, near Longs Creek, have been the scene of general prospecting, and a number of gold and copper-bearing ledges have been located, whose gold values alone attracted the attention of a number of the best capitalists in Wyoming, and work begun on several showings, which should be heard from before long. The conditions are certainly promising.

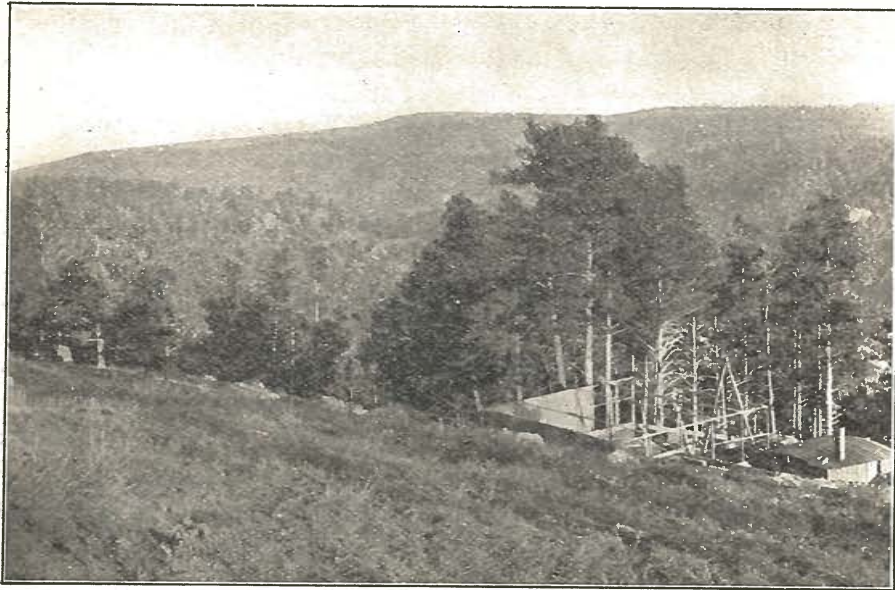
Copper Mountain is the name locally applied to that portion of the Owl Creek Range of the Wind River Mountains which lies east of the Big Horn River, and has been the scene of active



GENERAL VIEW OF STRONG MINE, LESLIE, ALBANY COUNTY.



VIEW OF THREE CRIPPLES SHAFT HOUSE, NORTHEASTERN ALBANY COUNTY.



VIEW AT MAGGIE MURPHY SHAFT, IN NORTHEASTERN ALBANY COUNTY.

prospecting for both gold and copper for the past year or two. The territory embraced is about twenty miles long by about six or eight wide, and the formations shown are schist, diorite, two distinct granite flows, and the whole skirted by the sedimentaries which overlie the uplift on the north and east sides of the mountain.

On the west end the canon of the Big Horn River cuts through the range, and the properties of the Boysen Company are situated here. A power plant is being built to furnish power for the mines of this locality, light the Central Wyoming towns, and supply power for the other enterprises of this section. A dam is being constructed, and the plant is being installed as rapidly as possible.

Much prospecting has been done here, and some deep tunneling done from the canon side, but so far no results have been given to the public. Near by are several promising properties, and considerable gold ore has been reported from this end of the mountain.

The Hale property, near Birdseye, is a gold property, is developed by tunnels, and a considerable ore reserve shown up. On this showing a stamp mill has been erected and operated for a part of the season, until stopped by shortage of water. Plans for a cyanide plant to treat the tailings are now being considered for construction next spring.

On the east end of the mountain the Williams-Luman mine bids fair to make Central Wyoming famous for both gold and copper, and in point of production and occurrence of the ores. The ore is found in a crushed and fissured diorite, much altered and almost unrecognizable in spots, and at the surface shows about fifty or sixty feet wide.

The ledge may be traced for a length of about 4,500 feet, and the ore shown up in a series of cuts, shallow shafts, etc., at many points, showing the usual oxidized copper minerals in many beautiful forms. With this is a gold streak of several feet in width, which shows free gold ore of the specimen variety, and ore of a lower grade as well.

A tunnel has been run, cutting the ledge at a depth of 200 feet, and here the ore was shown to be over eighty-five feet wide, thirty-two feet of which showed over thirty per cent of copper. This copper is native copper, occurring in thin sheets, and nug-

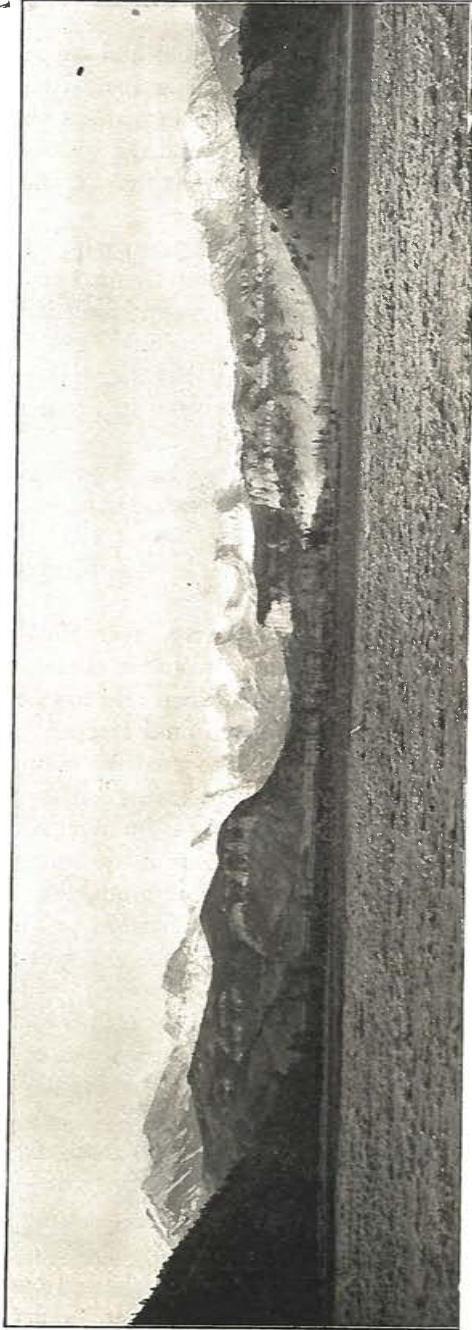
gets throughout the ore. The sheet copper varies in thickness from that of a sheet of paper to an eighth of an inch, and in size to a dinner plate size. At this depth no sulphide ore has yet been encountered, but the company has installed machinery for sinking to a depth of five hundred feet, and will test the property thoroughly before installing treatment works of any kind.

This property is also unique in that it is owned by five Wyoming men, was bought and paid for in cash, and no stock has ever been sold by them, and they are amply able to carry out their own development plans without outside aid, even if the mine is not called upon for a production record. Little has been said about this property, and only test shipments have been made, but it is a wonderful ore showing, and when handled on a commercial scale and made to produce on a commensurate scale, will be a wonder.

West of Copper Mountain is situated the Willow Creek District, in the Owl Creek Mountains, where the formation conditions are similar to the former district, and a number of properties have equally good surface showings. This is the part of the state so long retained in the Indian Reservation, and is practically unknown land, as the formal opening took place in October, 1906, too late in the season for active work, and time has not been sufficient to admit of deep work or extensive proving of the promising surface showings noted at many points in the new district. New roads have been constructed from the nearest railroad points, Shoshoni on the Wyoming and Northwestern and Thermopolis on the Burlington Route, each about thirty-five miles distant.

In this and the Wind River Ranges, both west and north of Willow Creek, towards Washakie Needle and Kerwin, on Wood River, much work has been going on, due to increased transportation facilities, which has attracted prospectors and miners from other better known regions. At Kirwin there have been power plants built and extensive work has been going on for some years, principally driving long tunnels, to reach at great depth, the ores found in promising surface showings, and partially proven by shallow workings. Greater silver values have been found here than at any other camp in the state, and lead, also, in a number of properties, as well as a general gold value

VIEW OF THE ESTERBROOK MINE, IN NORTHEASTERN ALBANY COUNTY.



A General View of Stinking Water Range, where the Sunlight Mining District is situated, in Northwestern Big Horn County, forty miles from Cody. View taken from a point above Painter's Ranch, in Sunlight Basin. Bear Tooth Mountain and Stinking Water Peak in the distance.



Prospecting Outfit at the Main Tunnel of the Winona Company, on Upper Sulphur Creek, Sunlight Mining District, Big Horn County, forty miles northwest of Cody.

sufficient to be interesting to all concerned, but the real facts have never been given out for general circulation.

Cody, in northern Big Horn County, is between two sections which have made considerable progress since the advent of the Burlington Route to that section, the mines on what is known as "the South Fork" country, lying southwest of Cody, being operated by local parties, Colonel W. F. Cody and associates being largely interested.

Fifty miles northwest of Cody is the Sunlight Mining District, where there are a number of active development works on copper ores. The Winona Company has acquired a large group of claims on Sulphur Creek, installed a mechanical plant, and is now driving a tunnel to cut at great depth what has proven to be an extensive system of copper-bearing veins, and which now indicate the presence of large bodies of concentrating copper ores. At first only small veins were noted, but extensive and systematic prospecting developed other adjacent veins, with the result that the ore bodies bid fair to exceed the first estimates of their extent, and the result of this first deep work is being watched with interest.

The Painter properties in Silver Tip Basin, on the north side of Stinkingwater Peak, are the original locations of this section, and are now being developed on a commercial scale after a number of years of prospecting and some legal delays. These ores show copper, lead, gold and silver, and shipments already made indicate a rich field for the future development work. Investors will do well to keep informed on this little corner, as it is brand new territory, and each year shows decided progress and new finds.

GOLD.

In the South Pass District, in southwestern Fremont County, the principal work has been the reopening of the famous old Miners' Delight mine, twenty-eight miles southwest of Lander, by United States Senator Clarence D. Clark of Wyoming and his associates. This mine was famous forty years ago as a producer of the highest grade of specimen free gold ore, when the "Sweetwater mines" were famous as Goldfield today, and produced an unknown amount of gold, as the then owners simply



VIEW OF THE FLORENCE MINE, SOUTHERN ALBANY COUNTY.



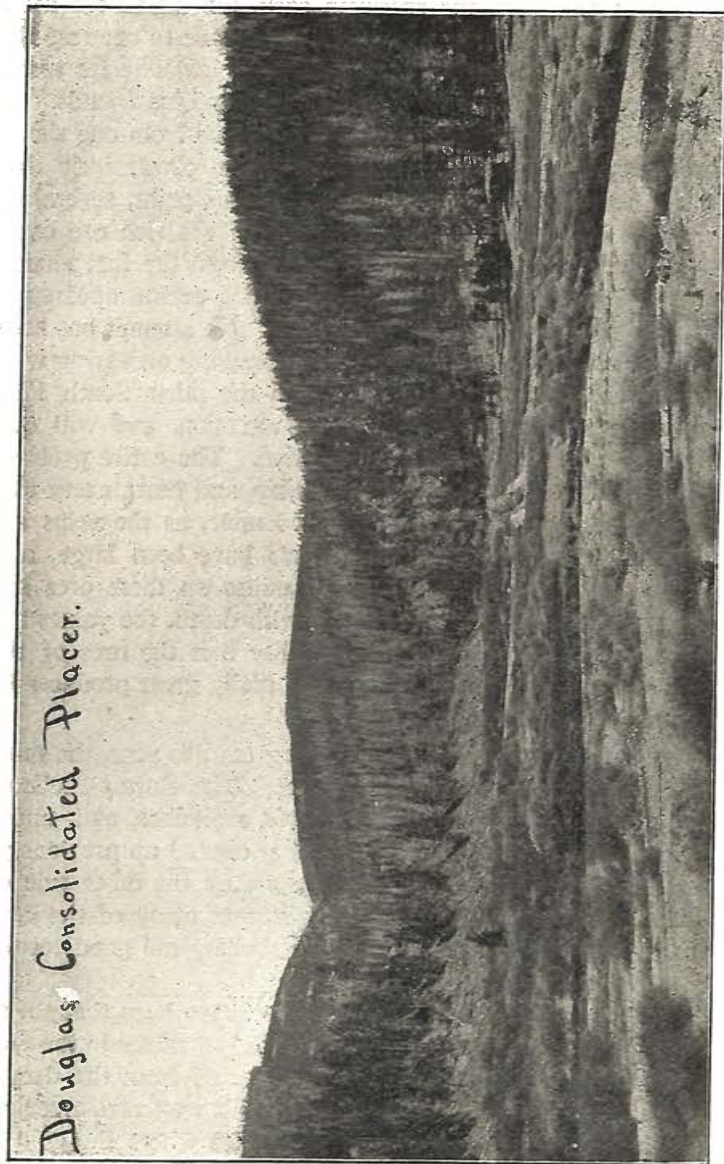
General View of Keystone Mine, Southern Albany County, now being re-opened and Cyanide Plant added to Mill.

gophered where the gold was the thickest, and paid no attention to any ores except the specimen rock, that made the mine famous. Later some serious attempts were made to open up the mine, but were abandoned, and the property laid idle for many years, to be taken up now by Senator Clark and his friends.

It has been supposed that all the ore came from one shoot, on one vein, but the recent work has shown conclusively that there are a number of veins, centering at this point, several of which were cut into, but the main body of the rich ore came from the surface cuts and shallow stopes from the first shafts, and the ore milled from a cross-vein, which occurs apparently independent of the other veins noted here. No attempt has been made, until now, to develop the low grade milling ores lying with the richer shoots, and, in common with the other South Pass mines, these are beginning to receive attention, and will evidently prove the real ores of this section. The entire problem at the Miners' Delight is most interesting, and bears every evidence of working out into a great gold mine, as the veins are strong and well defined, the ore shoots have been large, and work done at the Carissa and other mines on these ores has demonstrated that these ores continue with depth, the values are permanent, and there is every probability that the ores of the Miners' Delight will do the same and a really great producer be listed from Wyoming at last.

The Carissa has made but little progress this year, the mine being operated only a part of the time. The Burton-McGraff property has been taken over by Denver capitalists, and, under the direction of Frank Reinhard, is being opened up previous to a thorough exploiting. This property lies on the other side of Peabody Hill from the Miners' Delight, and many of the conditions of the two properties are quite similar, and good results may be expected.

Until recently the ores of this section have been thought to be only gold ores, with the greater part of the values in the free gold form, and the unoxidized ores, reported from the deeper workings, have always been associated with iron and arsenical pyrites, but there are several new properties where the gold is associated with copper minerals, and at the Copper Surprise, near South Pass City, a well defined copper-bearing ledge is being exploited and commercial copper values obtained. In ad-



Douglas Consolidated Placer.

View of Douglas Consolidated Placers, Lower Douglas Creek, Albany County.

dition to this evidence, it now appears that in many of the old properties which produced gold and were only worked for high grade ores in the surface shoots, that frequently copper has been the mineral associated with the gold ores, but was not considered of value at that time and no attention was paid to it or how it occurred, so there is ground for the belief of a number of engineers, now concerned in the development of properties here, that the carrying mineral of the district may prove to be copper sulphides, when the mines are opened up to some considerable depth, instead of only the iron and arsenical sulphides, now noted throughout the district.

PLACERS.

The pumping out of the Miners' Delight mine has again started placering in the old placers in the gulch below the mine, and old and new ground is being worked over with the usual satisfactory results, as this gulch has produced gold, almost continually, since the mine was first discovered. Small placers have been operated all over the district this year, but no large works have been installed.

A matter which brought Wyoming into the limelight for a brief spell was the reported salting of the Red Canon placers, twenty miles south of Lander, in Fremont County, after the work of investigating the ground had been going on for many months, and the matter was brought to the attention of the Governor, who ordered the State Geologist to investigate the matter thoroughly. This is being done, and the whole matter will be turned over, and public report made, as soon as the work is completed, in order to set Wyoming right before the investing public and the mining world.

There are numerous placers held and worked on a rather limited scale throughout the whole mountainous northwest quarter of the state, and some of them produce quite regularly, but the total amount is small, and included in the total gold production.

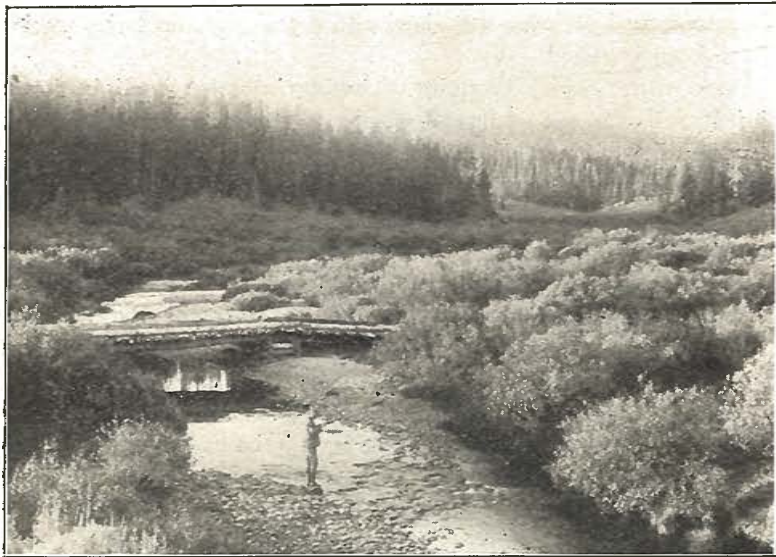
On Snake River, near Baggs, on the Wyoming-Colorado line, there are also a number of placer enterprises, the field covering a considerable area, and workable by dredge methods. The gold is given as being fine, with occasional larger nuggets.



General View of the Albany Placers, Douglas Creek, Albany County.



A VIEW OF THE ALBANY PLACERS, ON DOUGLAS CREEK, ALBANY COUNTY.



THE DOUGLAS CONSOLIDATED PLACER, ON DOUGLAS CREEK, ALBANY COUNTY.



View of the Home Placer, on Douglas Creek, Southern Albany County.



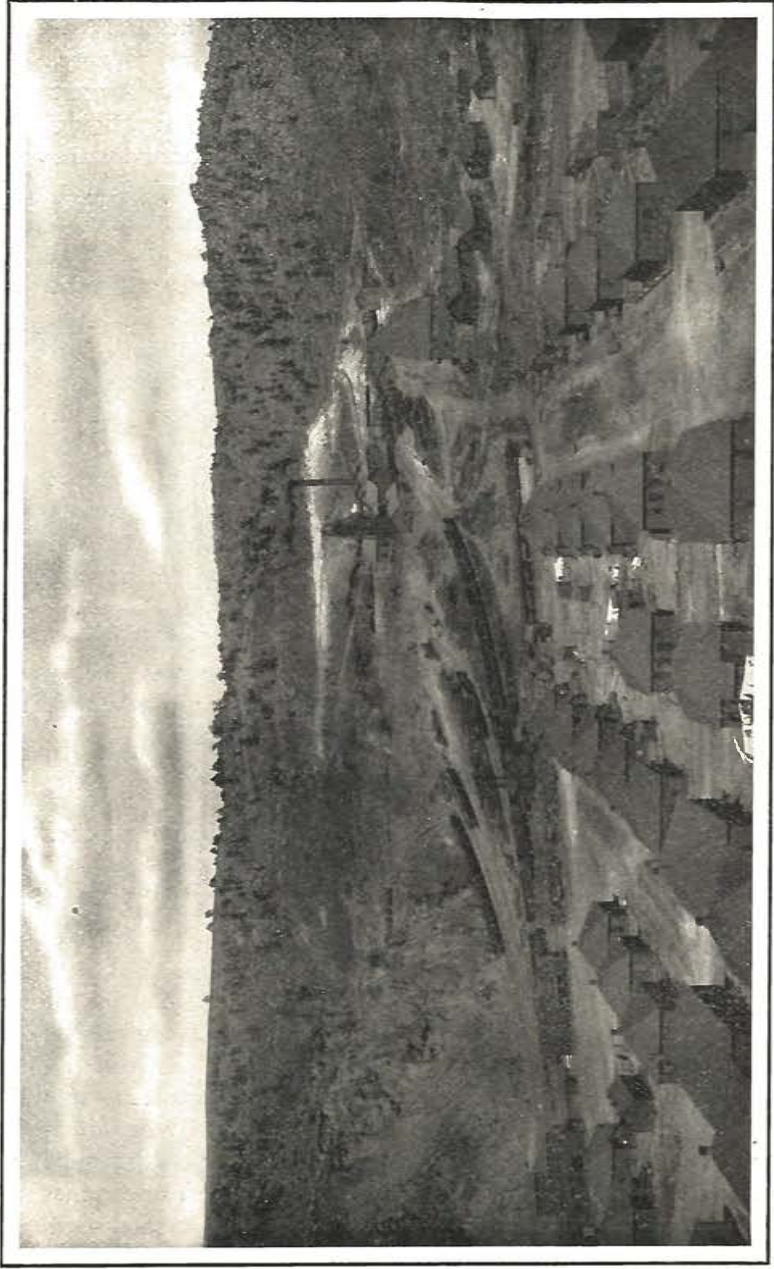
Part of the Sunrise Iron Mines of the Colorado Fuel and Iron Company, at Sunrise, in Northeastern Laramie County. The upper steam shovel is stripping off surface dirt and the lower shovel is loading iron ore.

For nearly the whole length of Douglas Creek, in the Medicine Bow Mountains, southwest of Laramie, in Albany County, placers are held and worked on a varying scale, the largest operator at the present time being the Suffolk Placer Mining Company, which has taken over the ground controlled by the Douglas Consolidated placers, lying south of Keystone. After the most exhaustive tests ever made on placer ground here, a plant for handling the gravel mechanically was installed, and some runs made which gave highly satisfactory return per yard handled. After a thorough trial, it was determined that the machinery was too light for the yardage desired, and work suspended for the season at this point. This property covers the course of Douglas Creek for eight miles, and consists of about 1,200 acres of placer.

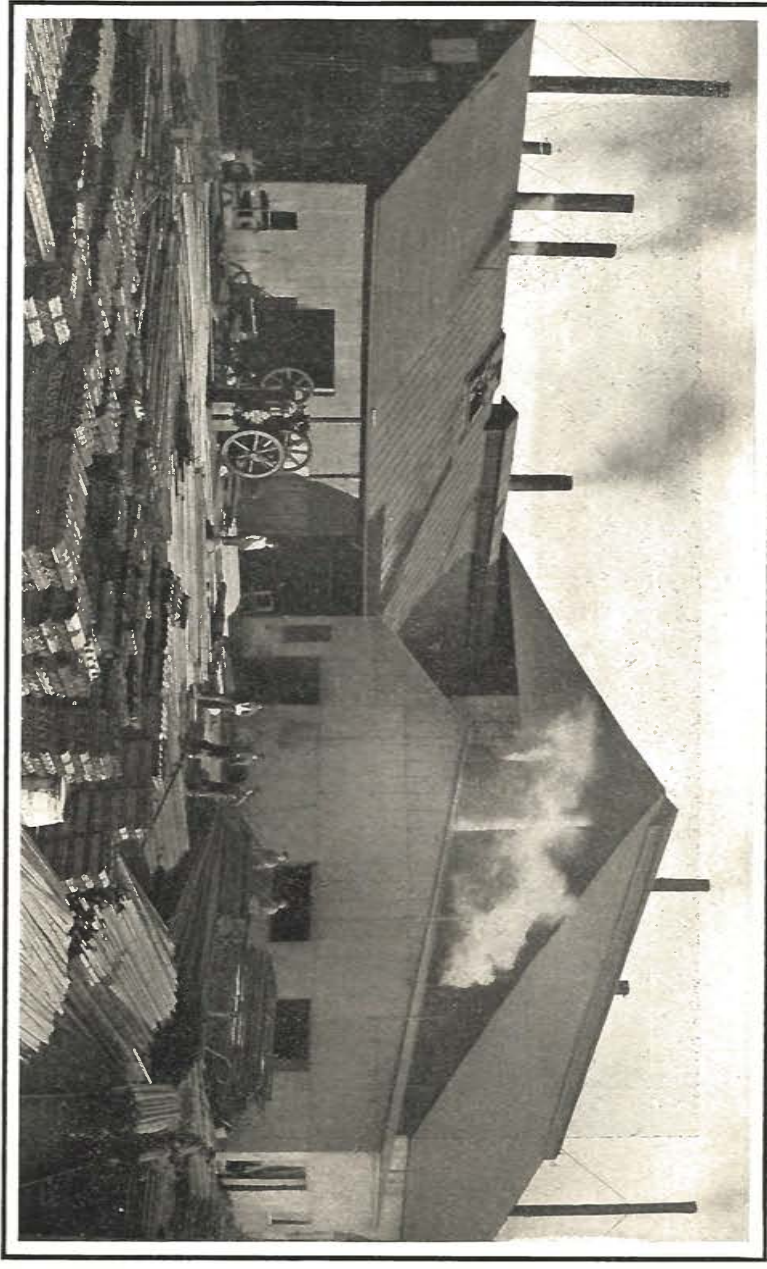
Above Keystone, on Douglas Creek, is situated a group of placers that has been known for years as the "Albany Placers," a portion of which has been acquired by the American Gold Placer Mining Company, which is now contracting for a plant of machinery similar to the new plant of the Suffolk Company, and which expects to have it in operation as early next season as the weather will admit of economical construction work being done. The values in these Douglas Creek placers are well known, as gold has been taken out along this creek for many years, in various manners, but the placers have never been worked on a large commercial scale, until the present time, and it now appears certain that the district will have a thorough test before another season has passed.

IRON.

The iron from Wyoming is produced from one point, at Sunrise, in northeastern Laramie County, where the mines of the Colorado Fuel and Iron Company are situated. This ore all goes to the Pueblo, Colorado, works, where it is made up into steel for all purposes. This ore is hematite, practically free from sulphur and other detriments, running about 64 per cent metallic iron, and is suited for the finest Bessemer steel. These mines first became famous for the open cut-steam shovel method used, as the deposits are huge bodies lying on the schists and partially covered by the Carboniferous limestones, with a deep canon cut-



General View of the Sunrise Iron Mines of the Colorado Fuel and Iron Company, at Sunrise, in Northeastern Laramie County. The open cuts are shown at the left and the main shaft in the center.



View of the Rolling Mills of the Union Pacific Railroad, Laramie, Albany County, where the track supplies of this vast system are made.

ting through the deposit. At present, however, a modern shaft, with steel gallows frame and cage equipment, is used and the ore mined by the usual stope system.

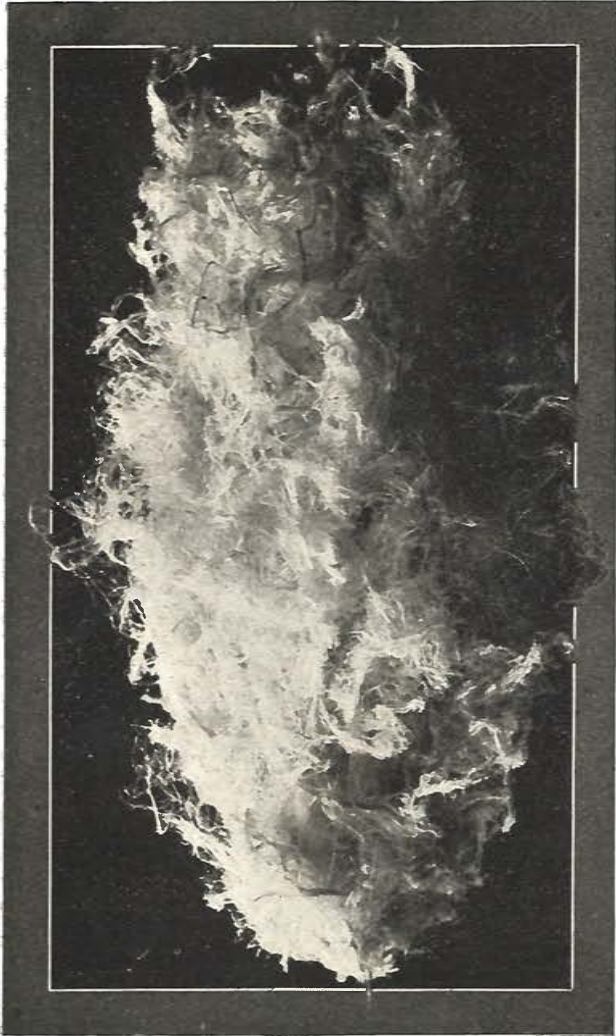
Other deposits of similar iron ores are known at Rawlins, Carbon County, where the deposit has been extensively prospected by the diamond drill method, and at Seminole, forty-five miles north of Rawlins, the latter having been held for many years by some Troy, N. Y., people. During the past year considerable inquiry has been directed to this latter section, and some work done there on copper as well as iron, all looking to an extension of the known field, but so far no results have been made public.

Fifty miles north of Cheyenne there is a wonderful deposit of titaniferous iron ore, known as Iron Mountain, and many attempts have been made to use it for various purposes, but without success. At the present writing, however, there is a company formed which has perfected title to a desirable portion of this deposit, and is moving to make it a commercial proposition on an extensive scale.

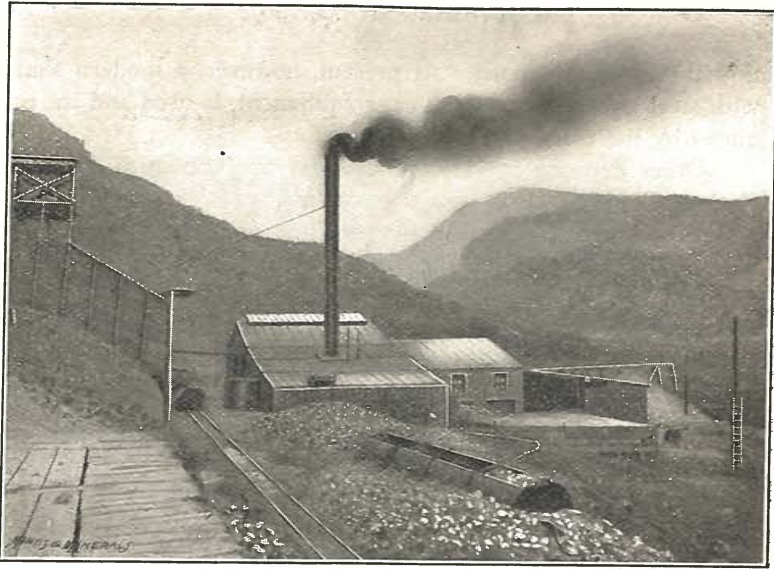
ASBESTOS AND SULPHUR.

Like many others, the existence of these commercial minerals has been known for many years in Wyoming, although until the present year little has been done to produce them on a commercial scale, but it is almost a certainty now that production tables in the future will contain both of them in large figures.

The hard variety of "asbestos" in commercial use, or chrysolite occurs in many localities, but none of it is yet mined for commercial use. The softer and finer quality, chrysotile, occurs at Casper Mountain, at Deer Creek Park and on Smith Creek, near Casper, in Natrona County, and has a fiber of excellent length and wonderful quality for spinning or any of the finer uses of the mineral. The United States Asbestos Mining and Fiberizing Company has perfected its preliminary arrangements for a large territory on Casper Mountain, and has done some work preparatory to development work and erection of a mill next spring. Negotiations have also been opened for a mill on the Smith Creek at the same time and the active production of asbestos rock should begin early in the summer. It is more than



Fiberized Spinning Asbestos from the Casper Mountain Asbestos Mines, at Casper, Natrona County. This is the finest grade known and is for the market in a short time.



Sulphur Works at Cody, Big Horn County, where sulphur is being made on a commercial scale.



View of the New Soda Works at Green River, Sweetwater County.

probable that the first mills will be devoted simply to making coarse grades by removing just enough of the enclosing serpentine rock to make a profitable shipping grade for the rougher purposes of asbestos, but later the works will be enlarged and the finer grades of product manufactured.

There is a small plant producing sulphur at Cody, in Big Horn County, where the ore occurs in a hot springs deposit, and this year at Thermopolis, in northern Fremont County, just reached by the Burlington Route, deposits of similar character have been opened to some extent and a mill is to be erected by the Wyoming Sulphur Company for the manufacture of sulphur.

STONE, PLASTIC MINERALS AND GRAVEL.

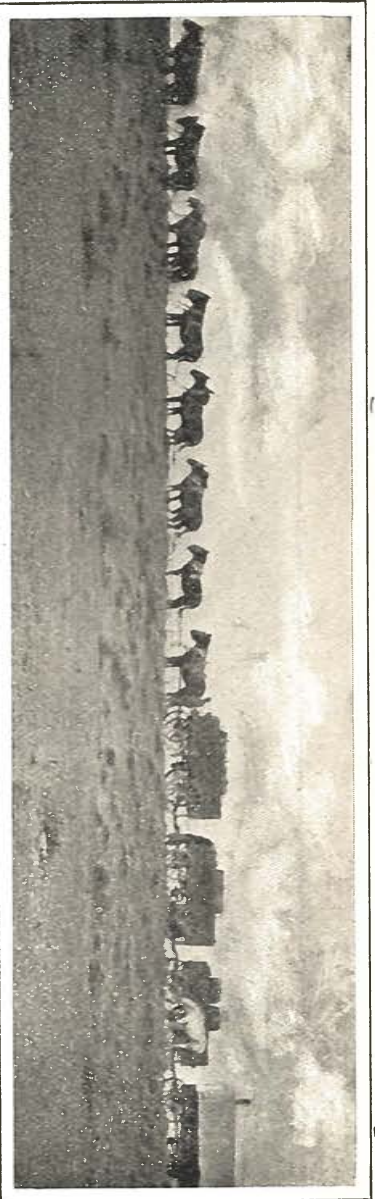
Building stone is quarried and made for local use and two prominent quarries have entered the general field, being used for government buildings and in active competition with stones from other states. These are at Rawlins, in Carbon County, and at Iron Mountain station, north of Cheyenne, in Laramie County. Similar stone occurs throughout the state and is used extensively, and nearly every one of the best known building stones from the softest sandstones to the hardest granites may be found here.

Gypsum in vast beds is found in every county in the state, as the Triassic formations are of general occurrence along many of the smaller uplifts and gypsum may be had almost anywhere in any quantity.

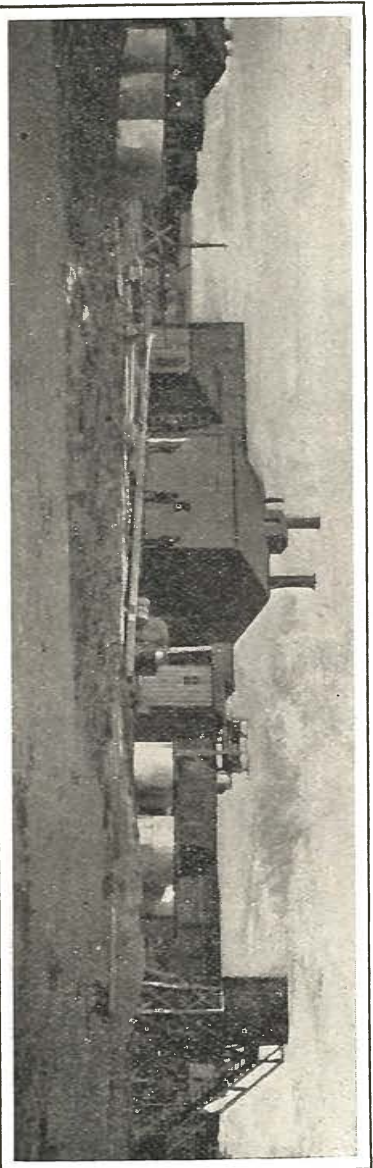
Stucco and plasters are manufactured at Laramie and Sheridan, and there are a few small local plants for local supply only.

The most of the plaster made is at Laramie, where there are three mills. The two city mills, called the Acme and Overland, make dark plaster, while the Red Butte mill makes stucco and gypsum plaster. These have a reputation all over the west and the market is steadily improving, the production for 1907 being about 30,000 tons for the three mills.

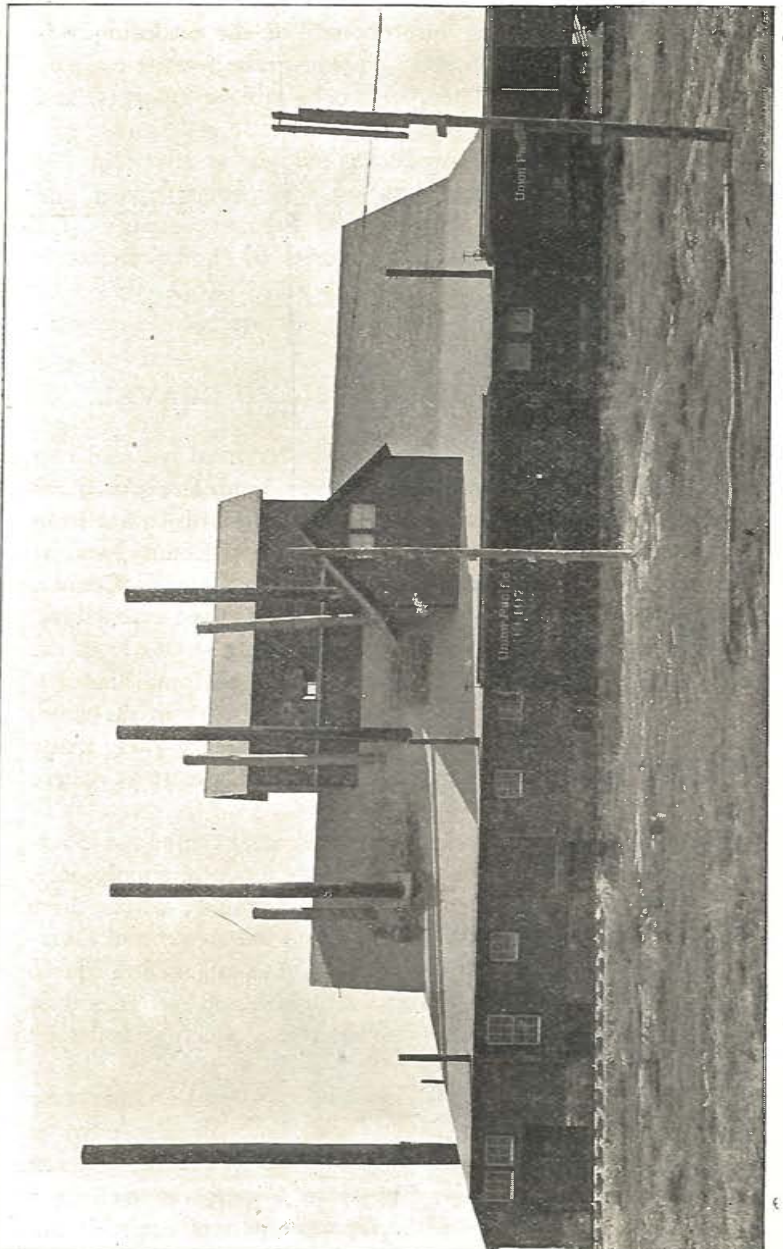
Portland cement materials exist here also and another year should see a plant in operation. These materials also exist at Iron Mountain station, Laramie County, at Newcastle, Weston County, and Sheridan, Cody, Big Horn County, as well as a number of other places, and with shipment matters equitably adjusted, the plants should pay very well on the investment.



Hauling Oil from the Salt Creek Wells to the Casper Refinery, in Natrona County, distance fifty miles. This shows what we have been up against in Wyoming, but the oil is worth it.



A General View of the Oil Refinery at Casper, Natrona County, erected to refine the wonderful Lubricating Oils from Salt Creek Wells, fifty miles distant.



VIEW OF CEMENT PLASTER WORKS, AT LARAMIE, ALBANY COUNTY.

Brick is made at Laramie, Douglas, Lander and other points, but the output is mostly used in local work.

The entire line of the Union Pacific railroad system is ballasted with disintegrated granite gravel, which is taken from the pits of the company at Buford station, on Sherman Hill, between Cheyenne and Laramie, and thousands of carloads are mined annually. This "Sherman gravel," as it is known, is the finest railroad ballast yet discovered, and as the supply is unlimited, cost of mining is slight and there is a great field for its use in many directions. Recently it is reported that the Rock Island Route is securing it for their track ballast, and there is room for improvement on many other roadbeds in the west, as well as gravel here to supply it.

OIL AND NATURAL GAS.

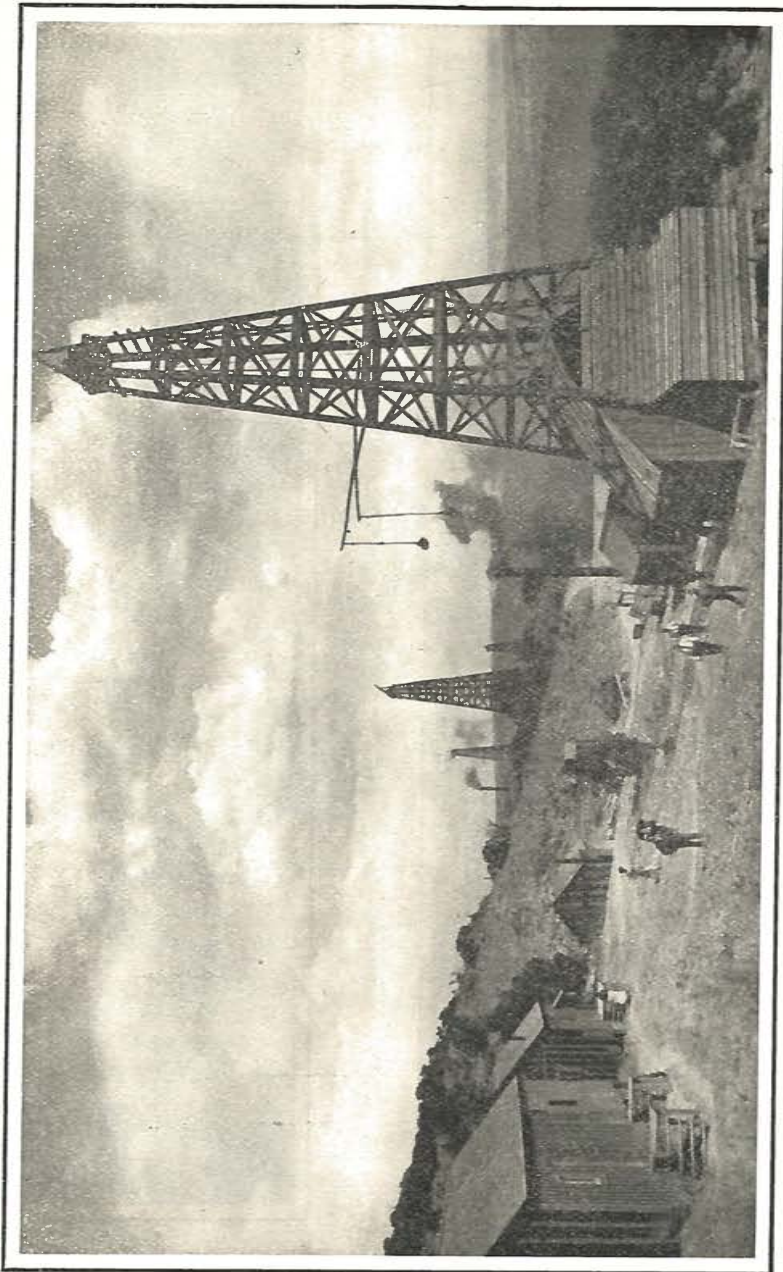
These are being developed in a number of points throughout the state, and drilling is now going on in a number of points where the conditions indicate oil or gas. The eighteen oil fields of Wyoming are well known and the quality of the various oils fully shown, but so far it has been found impossible to market them profitably except in a small way. Drilling has been going on at Lander, Evanston, Fossil, Basin, Garland and a number of other points. Some of this was preliminary and larger operations are to follow in a number of instances.

COAL.

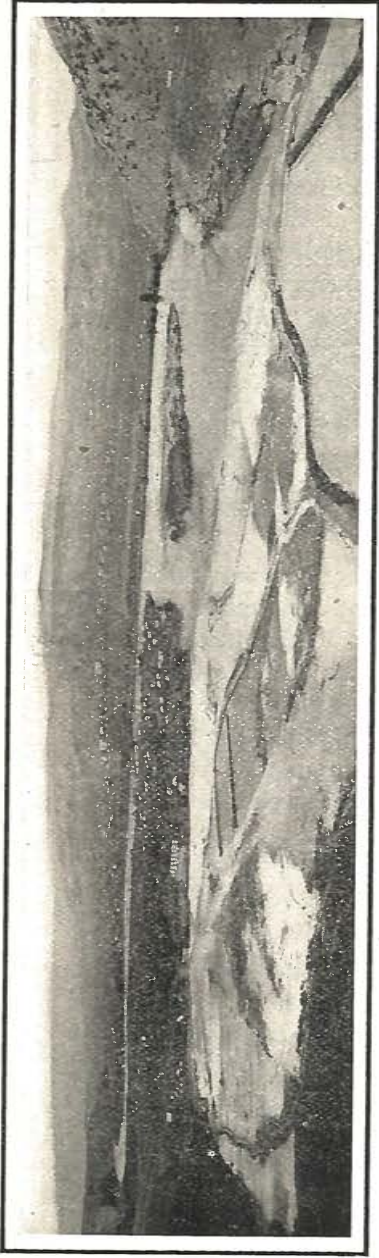
This is the principal mineral product of Wyoming and is constantly increasing in volume, as new railroads reach new fields and production facilities become more equitably adjusted, as time goes on.

The coal area of Wyoming is estimated at 20,000 square miles and touches every county in the state, mines being operated in every county, except Laramie County, in the extreme southeastern corner. The quality ranges from the famous Kemmerer and Rock Springs steam coals to some of the later lignites found in a dozen localities.

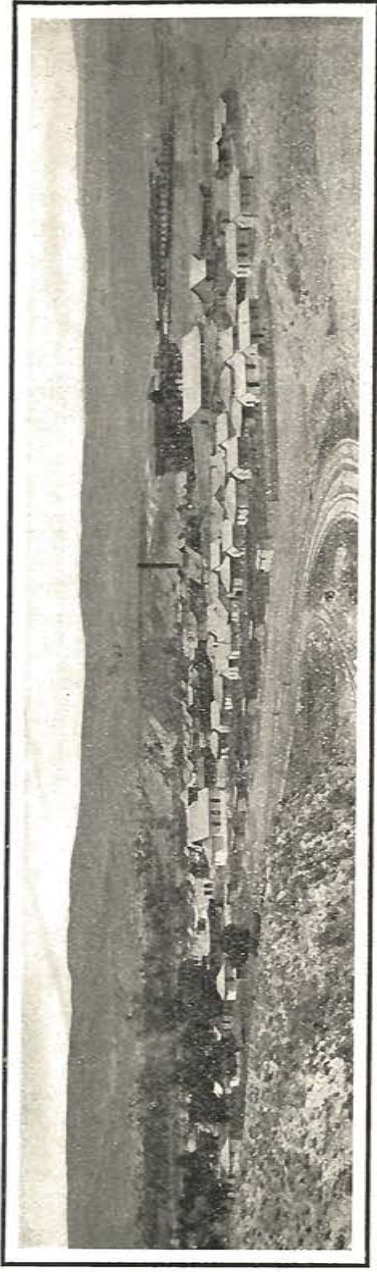
The withdrawal of some of the coal lands from entry last year stopped new work for a time, but as the vexed question of



A View of some of the Derricks in Uinta County Oil Fields, where some of the highest grade oils in the world are found.

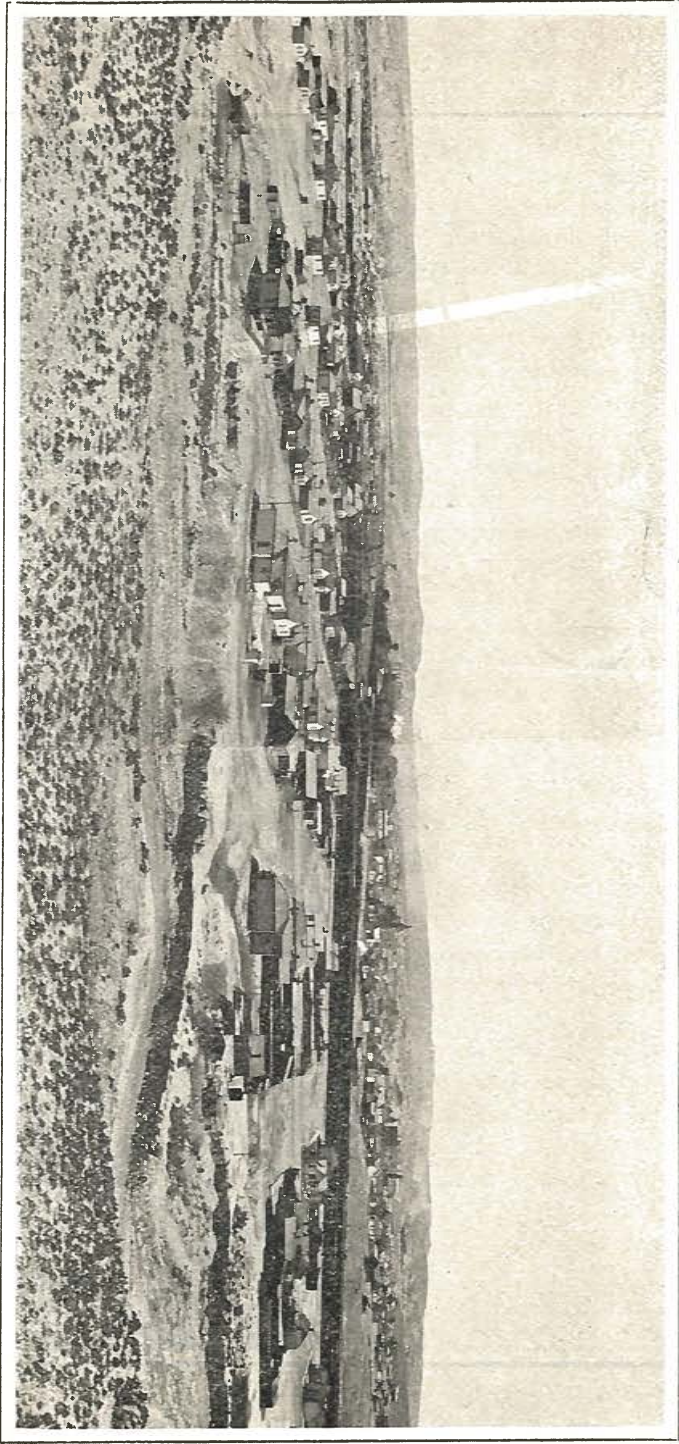


General View of the Great Hot Springs and Thermopolis, Northern Fremont County, recently reached by the Burlington Route. New Sulphur Deposits opened up in this locality.



View of the Town and Coal Mines at Dietz, Sheridan County. This is one of the principal Coal Mining Centers of the Northern District, and the production is steadily increasing.

General View of the Great Coal Mining Town of Rock Springs, in Sweetwater County, which produces over three million tons of coal annually.



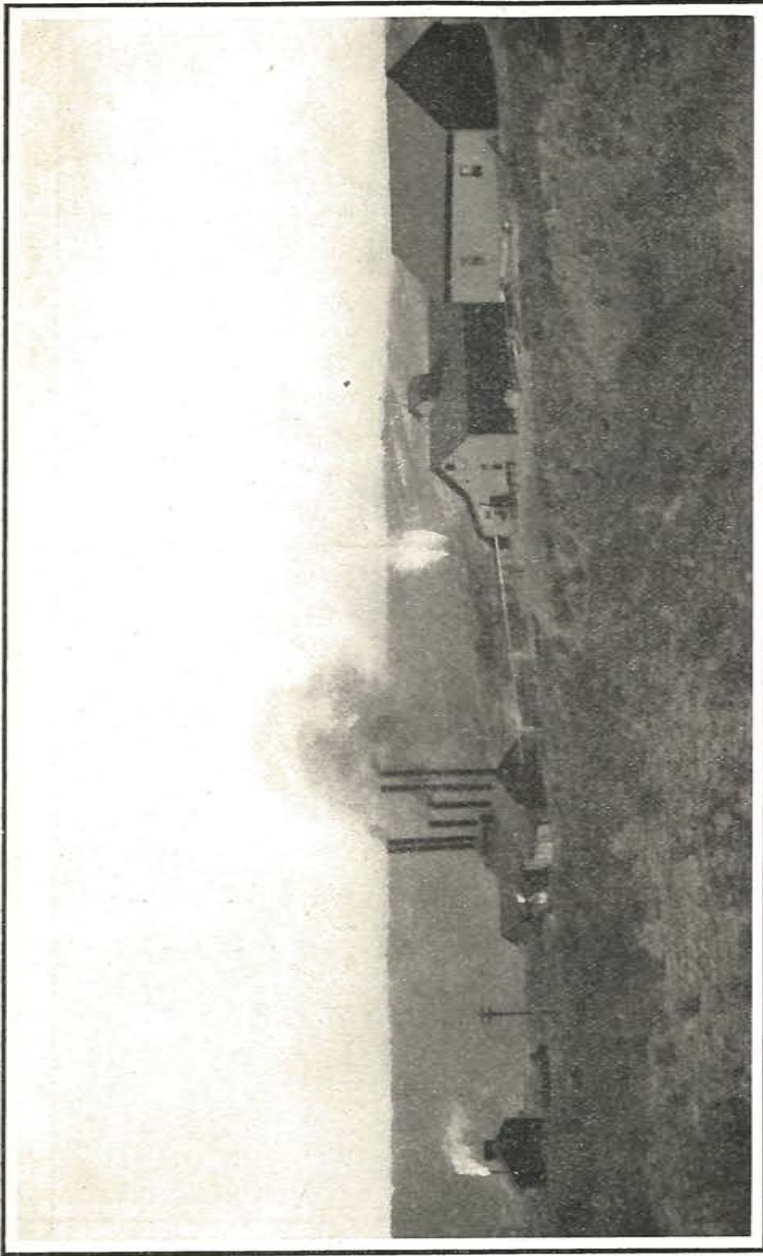
what may be done to secure coal land becomes more generally understood, new land is being entered and new mines started. The United States Geological Survey is engaged in making a detailed study of the Wyoming coal fields, and the resultant map will be eagerly looked for by those concerned in this industry here. This should have been done many years ago, but state appropriations were never sufficient to permit it being attempted, until conditions required it being done by the national government.

New mines are being opened all over the state. In the southern district, along the Union Pacific railroad, some old properties are being reopened as the demand increases and shipping conditions improve, and new camps have sprung up on coal veins long known, but neglected.

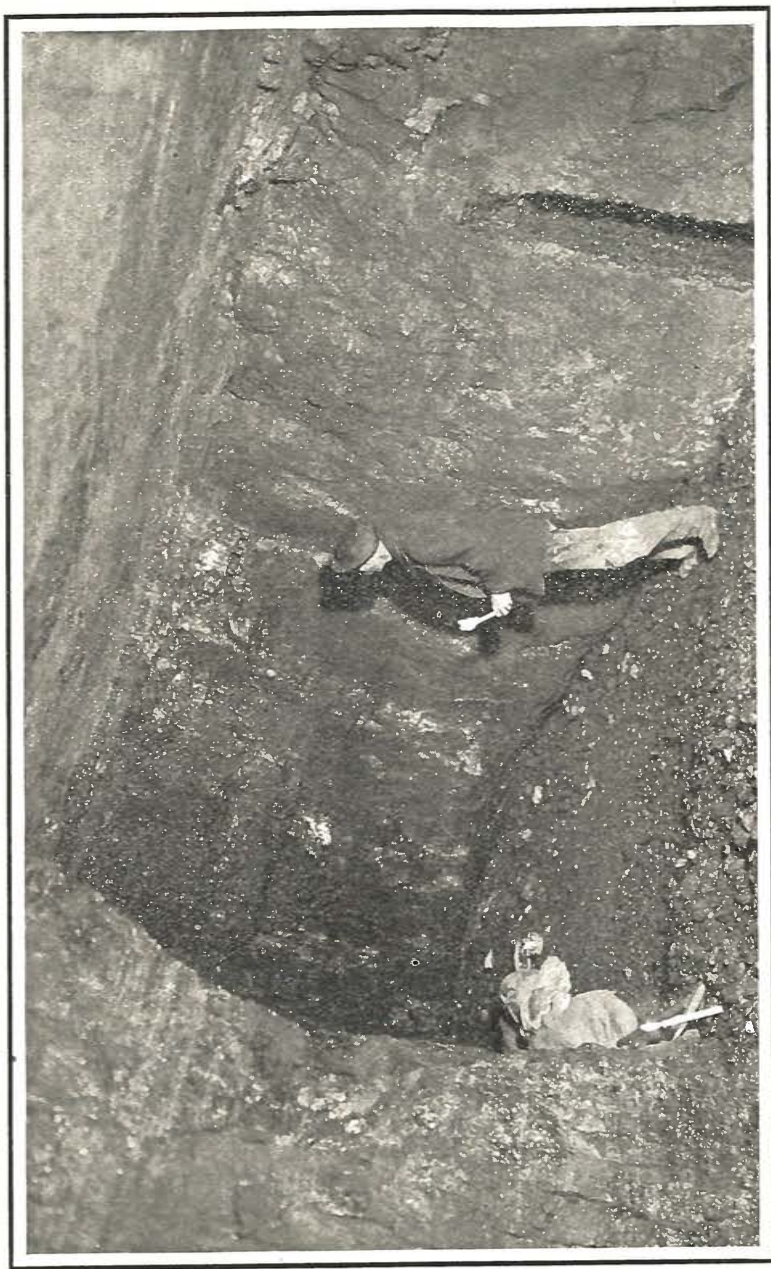
In the central part of the state, the new Wyoming and Northwestern railroad has caused new mines to be opened, some for local demands, which will be included in the list of general shippers as soon as proper facilities are provided for cheap production and shipment.

Northern Wyoming has witnessed a great advance, in that new mines have entered the producers' list along the Burlington Route, in Crook and Sheridan Counties, and the Burlington has also built to the "Big Horn Basin" fields at Kirby, near Thermopolis, and one of the greatest fields of splendid coal in the west has at last been tapped, after many years of neglect. This coal has been mined on a small scale and marketed locally, but now will form an important item in the fuel problem of this section for many years to come.

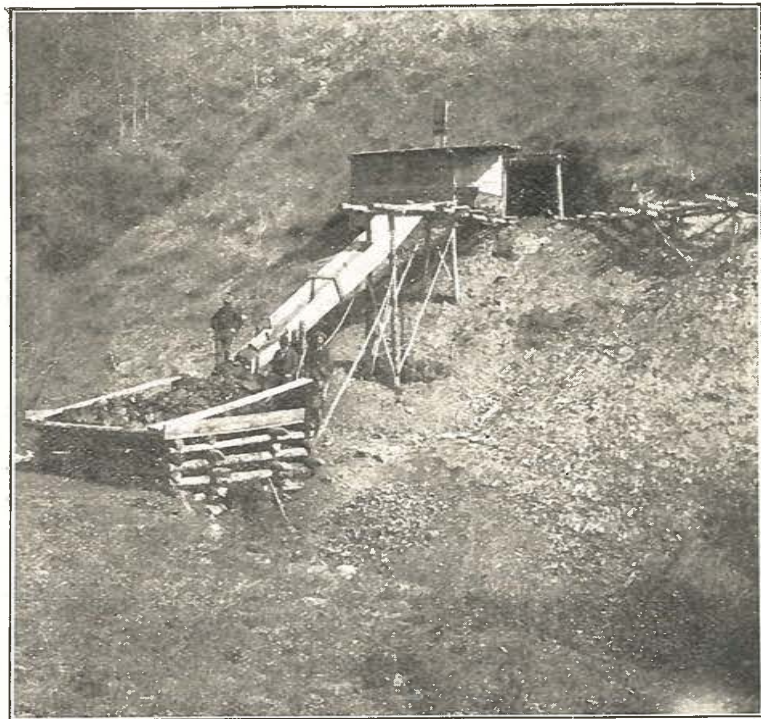
The Kirby coal is but one point in a great field, as the coal formations extend over the entire "Basin," and similar veins have been opened for local use at many of the inland towns, which must be reached by a railroad in the future. The Northern Wyoming coal fields have been merely touched upon and their full extent is not yet known.



A General View of the Kemmerer Coal Company's Mines, at Frontier, Uinta County. This is one of the great Coal Mines of the Southwestern Fields.



A Flashlight Photo in the Cottle Mine, at Kirby, in Southern Big Horn County, which has been recently reached by the Burlington Route, and showing one of the veins of coal of the Great Big Horn Basin Coal Fields,



View of the Stemp Springs Coal Mines, one of the new Coal Mines of Southern Carbon County.

MINERAL PRODUCTIONS, 1907.

At this time, full details as to the exact amount of each mineral produced have not been received, but careful inquiry has been made and the following figures have been compiled as a practical estimate, subject to correction later:

<i>Mineral Mined</i>	<i>1906</i>	<i>1907</i>
Coal—District No. 1	4,506,957 tons	4,564,859 tons
District No. 2	1,298,315 tons	1,653,920 tons
Totals	<u>5,805,272 tons</u>	<u>6,218,779 tons</u>
Copper	50,000 pounds	2,350,000 pounds
Gold	\$25,000	\$30,000
Silver	2,000 ounces	3,500 ounces
Iron	675,554 tons	560,000 tons
Plaster	40,000 tons

Wyoming is coming to the front as a mineral producer in more than one line, and each year sees decided gains in value and variety of the minerals mined, but the state has been but slightly scratched, as yet, and there is a vast area open to the man who knows what he wants and has the patience to develop what he finds.