

ITS NIGHTY BODY OF COPPER ORES.

THE past year marks an epoch in the history of mining in Beaver county, and it would not be surprising if, after the lapse of a quarter of a century since the discovery of the famous Horn Silver, and such mines as the Cave, Rebel, Savage and other old producers, another era of profitable mining should be ushered in.

The tide appears to have set towards Beaver county and the results of the development work done there during the past year have been generally very gratifying. The entrance into the field of Samuel Newhouse, the Franklin syndicate and the capitalists represented by A. B. Lewis, has attracted the attention of a great many mining men. The O. K. has given its object lesson on the ore of the Beaver Lake district by the shipments of some 500 tons of 400 ore since last July, while the payment of nearly a quarter of a million for the Cactus group in Copper Gulch revealed to the world that great developments have lately been made in that old mine or Mr. Newhouse would not pay such a sum for the property.

A great deal of work has been done since last December. The results may not be as great as some might expect, but it can be safely said they compare favorably with the developments in many of the prospects of Hingham, Tintic, Park City and other camps of the state.

Standing at Milford, 236 miles south of Salt Lake City, one views the principal mining districts of Beaver county in somewhat of a circle some thirty or forty miles in diameter. At the western extremity of the circle is the Horn Silver and the Copper Gulch properties in the Prisco district, the richest known part of the belt. Coming round to Milford on the north the Beaver Lake district is reached, in which is located the rich O. K. mine. Continuing east the Rocky district in next encountered some five or six miles from Milford. Here is located the Old Hickory and the Glasgow and Western Exploration company's properties. Lying east of Milford is the Granite district and it

and shafts, previous to its purchase by the Franklin syndicate a year ago last August. From different places along the outcrop some fine shipments of copper ore have been made, but the great mass of the vein as far as at present developed is shown to be a very heavy iron ore. Two prospect shafts 40 feet apart, have been sunk by the Blackbird company and the drifting in both of them disclose kidneys of fine copper ore with much iron. Assays show the ore to run as high as 200 ounces silver and 24 per cent copper ore has been found carrying 30 gold per ton. The outcrop of the vein has been traced for a considerable distance on the surface, and tests show the immense vein to carry from 20 to 50 per cent iron. Dr. Franklin is proceeding on the theory that the iron will be found to be the cropping of a big body of copper. Some twelve men are engaged in development work to determine the place to begin sinking the main working shaft.

OTHER PROSPECTS.

Among other promising prospects in the Star district is the Estrella group, on which work is being directed by General W. H. Penrose. During the present year a tunnel has been driven in something over 400 feet. The vein has been intercepted at a vertical depth of about 120 feet. Some good values are found in gold, silver and copper, but the formation around the tunnel appears to be broken up somewhat, and the general intention starting an incline next month to explore the vein at a greater depth.

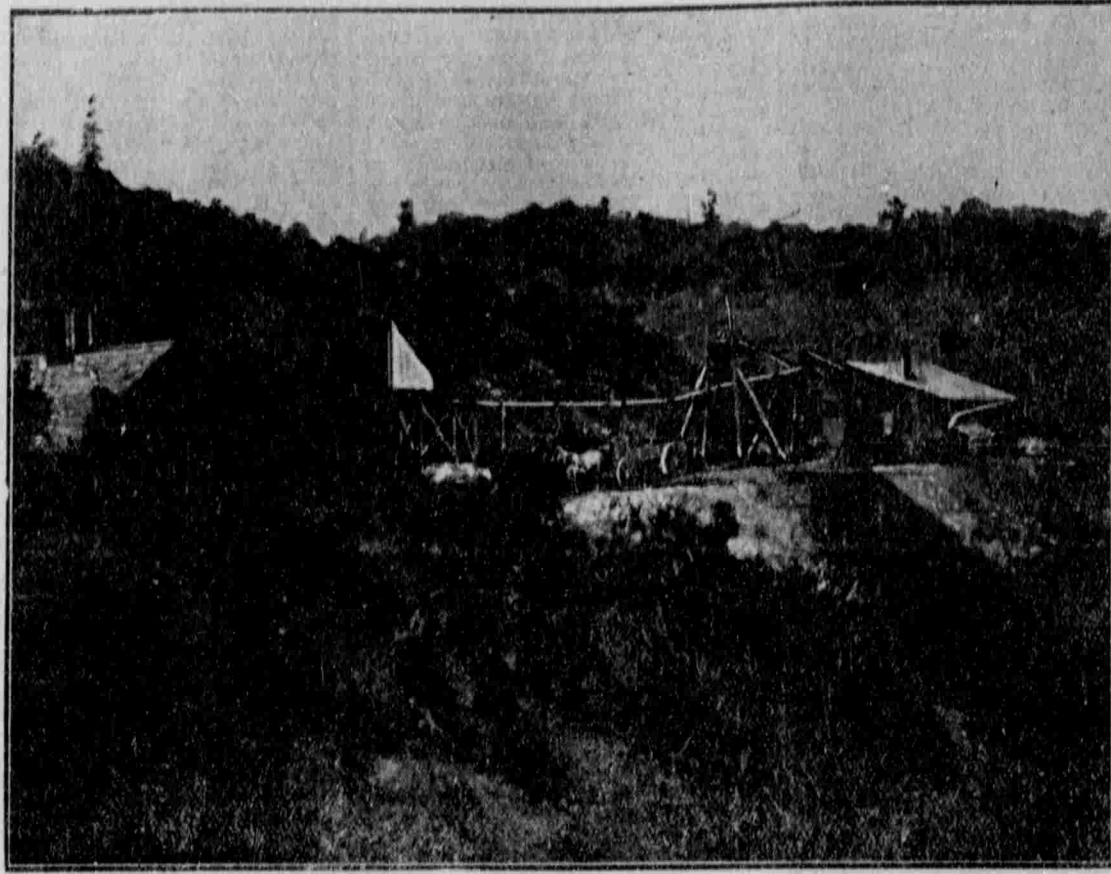
A couple of men have been working all summer at the Ophir group, belonging to W. D. Williams in Elephant canyon of Milford. The crosscut tunnel is now in over 400 feet with some distance to go before the vein is tapped.

ROCKY DISTRICT.

In visiting the mines of Beaver county the impression becomes very strong that generally speaking it is not a poor man's camp. The lead-silver properties as well as the O. K. are exceptions to the immense deposits of low grade ore which the visitor sees in Copper Gulch as well as in Rocky district. In the latter district the Old Hickory is an interesting property, covering as it does part of the

to supply the O. K. mine some 10 or 12 miles from Milford, as well as a number of prospects. The water for the O. K. is conveyed by rail within 2 miles from the mine and it is hauled thence by team. The O. K. is sustaining the reputation it made by its first shipment in August last. At that time 10 cars of ore netted about \$27,000.

BEAVER.



THE FAMOUS "O. K." MINE.

level is about 320 feet long. Two cross cuts have been run across the vein from this drift at a distance of 300 feet apart. Both of these crosscuts show a great deal of fine grained chalcopyrite evenly distributed through the vein for a distance of approximately 35 feet. In addition to the quite uniform distribution of fine copper py-

rite, is located the Imperial cement under the management of A. B. Lewis. The property is located at the head of Loeber's canyon and it offers the steepest and longest grade in the whole country. For upwards of a mile the grade is such that only small loads can be hauled to the mine. A very good showing of copper has been made in an upper tunnel. A gratifying shipment was made from this tunnel early in the year. Owing to its difficult access work has been abandoned in the upper tunnel and the company is bending its energies to tapping the ore in a lower tunnel about 300 feet deeper. Two shifts are employed in this tunnel which is being driven through the Massachusetts claim owned by Samuel Newhouse. It is in over 500 feet and the extremely hard rock which has been encountered for some time past is now giving place to rock that is more easily worked. In the face of the tunnel patches of chalcopyrite are being found in the rock which is considered an encouraging sign. The securing of water has been a serious obstacle but that has been overcome for the present by the development of water in three small shafts. Some water has also been tapped in the tunnel, but the company is by no means out of the woods on the water question, though it is believed that more will be developed when it is needed. As in other properties where steam is used, the company relies on the cedar on the hills for the greater part of its fuel.

THE WASHINGTON.

More than half way down Loeber's canyon from the Imperial is located the Washington mine. No work has been done there for some time. A shaft was sunk about 250 feet, but after drifting some distance in a well defined vein on the lowest level the expected ore chute was not found and the owners have temporarily abandoned the prospect. Fine looking quartz watered with galena has been found all the way down, but the pay streak has not been tapped.

THE CAVE MINE.

The old Cave mine, which is largely owned by Messrs. Ben Harrison and Henry W. Lawrence of this city, is still

been very gratifying and the management is very hopeful of striking a large body of shipping ore similar to that found in the O. K. group near by. The property, which lies in the Beaver shaft 110 feet deep. Some 200 feet of drifting has been done from the bottom run which proves the vein to be 30 feet wide on that level. The vein is mineralized all the way across, a striking of copper pyrites occurring in the decomposed quartz filling. A great number of high grade copper ore several inches wide has been exposed on the ground is favorably located and it is undoubtedly only a question of the development work before the vein is developed on the group will disclose a body of shipping ore.

BEAVER COUNTY NOTES.

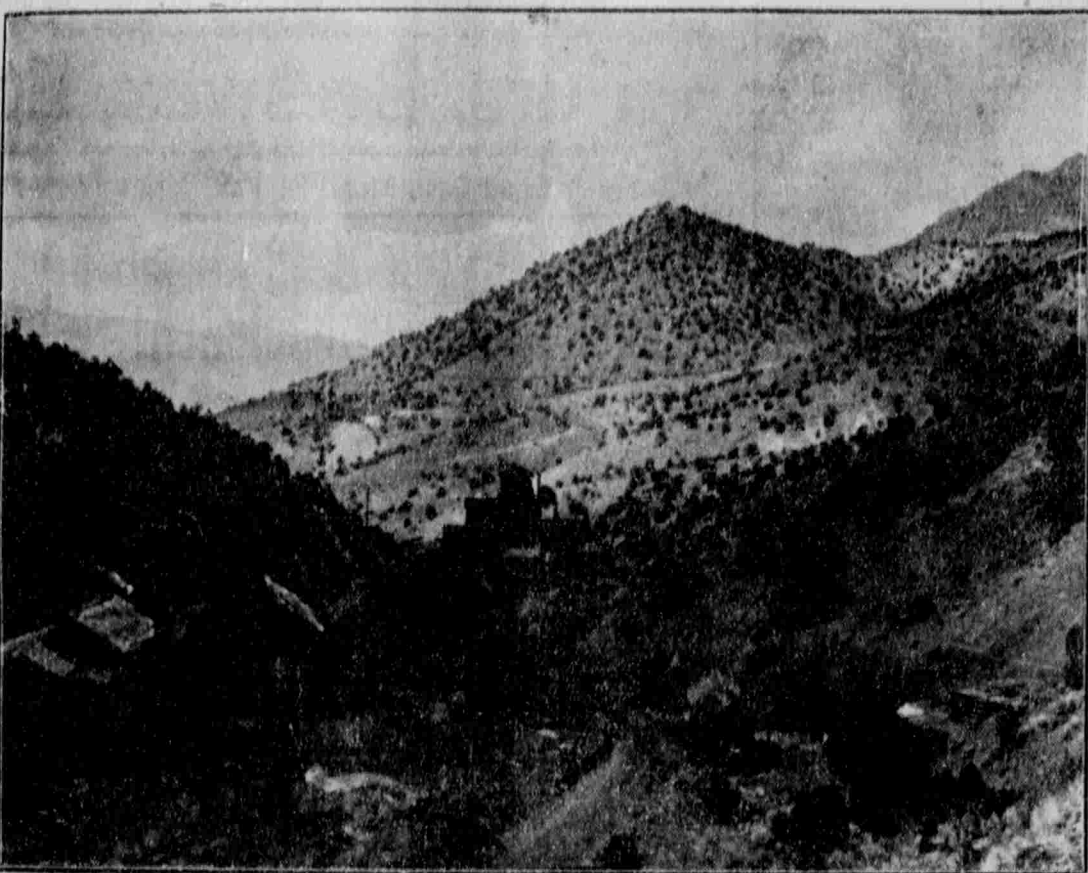
Col. Hawkins, the veteran prospector, has located a group of claims north of Prisco, in which specimens of very good gold and copper ore have been found.

Sevier parties are developing some claims north of the Carbonate and Rattler mines. Some good assays in lead, silver and gold are reported.

A force of 15 or 20 men are working the Hoosier Boy and Savage properties in Elephant canyon under the direction of A. B. Lewis who has a bond on the properties. Little has been done on the properties since 1874 except by leasers. A drift is being run at the depth of 240 feet with what is said to be very encouraging results.

OPHIR DISTRICT.

Taken all in all the development work done in Dry canyon, Ophir district, Tooele county, has been very satisfactory. This camp was the first one discovered in the State, and its huge outcroppings of high grade silver ore furnished no little excitement in the early



LOOKING DOWN COPPER GULCH.

View Showing the Blackbird Company's Hoist.

is here the Cave mine is located. Continuing the tour south of Milford, North Star district is next entered, about five miles southwest of Milford. Here is located the Harrington-Hickory claims. This district lies the Star proper at Elephant Canyon, at the base of the mountain. The Harrington-Hickory and some other lead-silver properties, from which shipments were made years ago. Some promising prospects are found south of Elephant canyon, but the best showing appears in that canyon and north of it at the

HARRINGTON-HICKORY.

where a force of twenty men is employed in drifting from two old shafts and preparing to sink a working shaft below the present level of 100 feet. In the Adelia claim of the group some very fine lead is encountered in the north and south drifts from the 200 level. Some carbonate of copper also appears. Several lots of ore have been marketed from the property lately. A winze is down about forty feet below the 200 level in a grade of ore which is said to be very good. A main working shaft is to be sunk a short distance easterly from the Adelia claim. It is down less than 100 feet and the management is waiting for the arrival of a new hoisting plant when sinking will be resumed.

The old Harrington-Hickory shaft is down to the 400, the last 100 feet of depth having been attained since Mr. Lewis took hold of the group last fall. Some good lead carbonate ore appears in the 70-foot drift on that level but the best showing is probably on the 200 and 300 levels, where some four feet of ore is in sight. Both shafts are operated by winches and the work is in charge of Will Roberts of Minesville. The present prospect work is very gratifying, but mining is expected to begin in earnest as soon as the hoist is installed at the new double compartment working shaft, which will cut the veins at greater depths on their dip.

Adjoining the above group is the old Rebel claims from which about \$170,000 worth of heavy lead ore was shipped years ago from a chute lying on the surface. Its continuation to the depths probably offers a good chance to some of the moneyed men of the state. Nothing has been done on the property for years and the occurrence of the isolated and elongated lead ore chute on the surface is not known to have any connection with deeper deposits any more than it was years ago.

COPPER KING.

One of the most interesting groups in Star district is undoubtedly the Copper King group owned by the Blue Bird Mining company of which Dr. P. A. H. Franklin is manager. The group lies over a divide about one and a half miles from the Harrington-Hickory in a westerly direction. The group was located in 1871, by James Forgie who is now foreman in charge. It consists of fourteen claims covering the strike of a magnificent outcrop of iron and copper for some two miles. The huge deposit is about sixty feet across on the surface and it has been cross-cut about the same distance at a depth of 100 feet. It was explored by Mr. Forgie by a number of open cuts

side of a hill with a vein 100 feet wide and half way up the hill a mass of green copper rock stands out very prettily. On one side of the copper lies some 15 or 20 feet of 40 to 50 per cent lead ore. The lead-silver properties are at a considerable distance up the hill. No exploratory work has been done in the iron deposit but a number of open cuts and shallow shafts have been sunk along the huge copper vein, from which some shipments of ore have been made carrying from 10 to 40 per cent. The mass of the vein is of course much lower in grade, but the deposits of high grade which have been found on greater depths and thus materially help the average which will probably run five per cent. The size of the deposit and the beauty of the huge mass of green colored rock on the outcrop and on the dumps are very impressive sights and the conviction is forced upon one that when the real awakening occurs in Beaver county things will be done on a grand scale. This will be necessary in order to handle the deposits of ore found there. The Old Hickory group consists of nine claims at present bonded by the Majestic company.

THE GLASGOW COMPANY.

The deepest work in the Rocky district has been done by the Glasgow and Western Exploration company under the direction of Joe Farren of this city. The company owns 17 claims in the district three of which lie east of the Old Hickory. On one of these claims a shaft 150 feet deep has been sunk and ore is similar to that in the Hickory has been encountered. On the 14 claims which the company owns across the canyon northwesterly from the Old Hickory, the company has expended many thousands dollars in open cuts and tunnels. A fine road was built around the hill which is over a mile long, and for more than one-quarter of a mile the road cuts through a great outcrop of copper ore. The same outcrop has been quarried into over the hill adjoining the Copper Ranch property. It is impossible to conceive the magnitude of the deposit as nothing more has been done than to quarry out big blocks of copper bearing granite at different places around the hills. A cross-cut tunnel was years ago lower down the hill than the open cuts. The company spent considerable money a few years ago, but very little has been done during the past year or two.

THE O. K. MINE.

Throughout all the districts of Beaver county water is at a premium. Good water has been obtained at Milford in an artesian well and this is

appears in the bottom of the shaft but no ore chute has been encountered in the shaft. The directors are hopeful, however, of striking something good when drifting begins as some very fine kidneys of copper ore have been found in the shaft.

O. K. EXTENSION.

Prospecting has been systematically continued on the O. K. Extension during the past summer, with fairly satisfactory results. Two shafts have been sunk 60 feet and 110 feet, and the showing is sufficiently encouraging to warrant an active campaign next year.

OLD BEN CLAIMS.

The Old Ben Mining and Milling company has been operating two claims north of the Skylark in Beaver Lake with fair success. An incline is now down 145 feet and 25 feet of drifting has been done at the bottom. At the depth of 45 feet a drift has been run about 100 feet and some very good lead-silver ore has been found which assays as high as 120 ounces silver and 23 to 25 per cent lead. Several tons of ore are on the dump and the outlook is quite promising. The vein is about three feet wide at the bottom of the shaft. W. S. Foster, of Salt Lake, is president of the company and E. A. Hough is treasurer with D. C. Holloman secretary. One claim was bought from John Murray, of Gold Mountain and the other was located by the company. F. M. Lane is foreman.

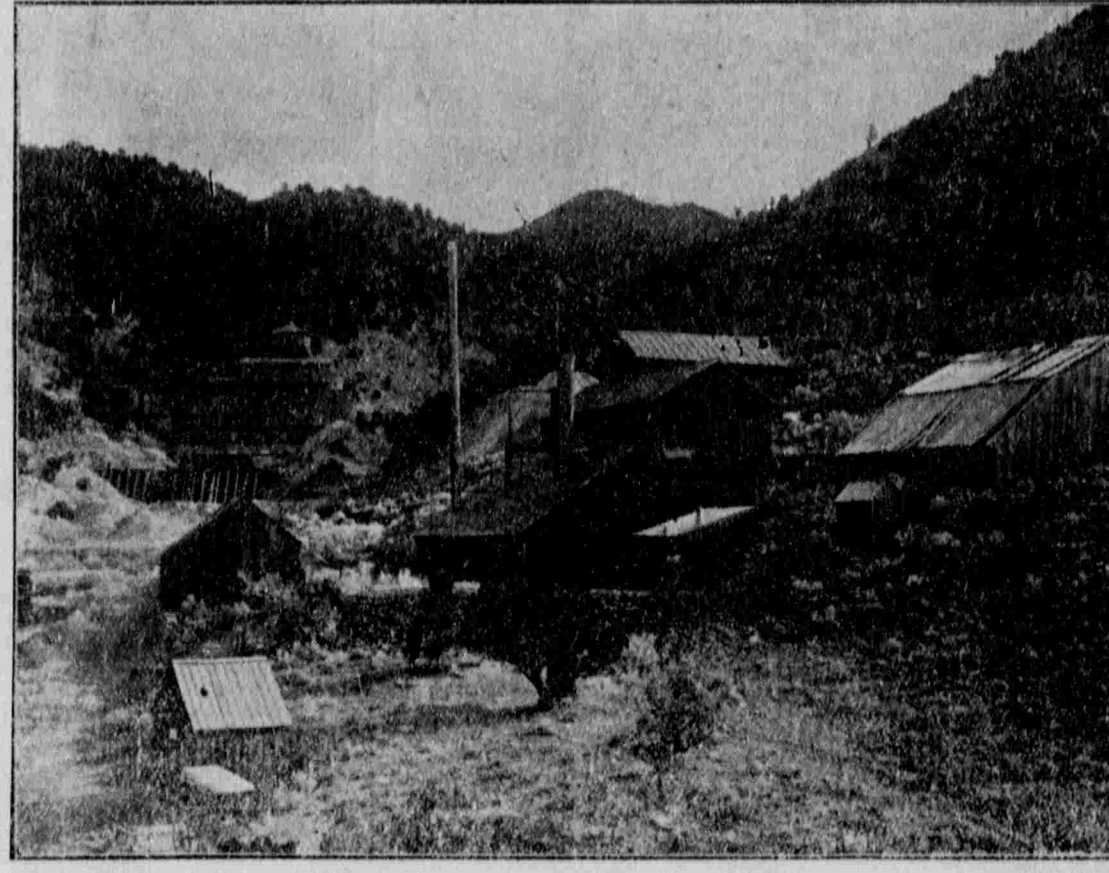
THE CACTUS.

Interesting as are the developments in older districts, nothing comes up to the wonderful showing made in the Cactus group recently purchased by Samuel Newhouse for nearly a quarter of a million. The magnitude of the ore body developed during the past few months is astonishing to those who have been accustomed to seeing small veins of silver-lead or gold ore. On the Cactus, however, the ore chute is nearly 100 feet between walls and is comparatively small amount of work has been done owing to the expiration of the option, enough has been done to disclose what is perhaps the most remarkable deposit of copper ore in the state. Yea, and more. Professor Lane exposed the vein by running a 400-foot tunnel on its strike. For nearly all its length the tunnel exposed a perfect jewel box of chalcopyrite in altered granite. At places reaching two feet and high grade ore was encountered, but the whole mass of the ore exposed was also run across the level and the same conditions were found but had been previously covered by running the tunnel on the strike of the vein. This tunnel is not 100 feet below the surface at any point, but it showed a ore body of magnificent dimensions. The owners at that time were Frenchmen who, concluding that a bonanza was in their hands, put up the money for the erection of a smelter and mill. The Frenchmen were not destined to reap the harvest, however, as complications arose and the mine was shut down. The mill was a source of trouble. It appears to have been unsuited to the tailings, this was largely owing to the fact that the mine was shut down. The smelter was operated for a short time, as indicated by the slag dump. For many years, however, the plant has lain idle and the boilers and tables in the mill no less than the smelter plant bear silent testimony to the danger of too much haste in the equipment of a mine.

When the option was secured, which was recently taken up by Mr. Newhouse, it was decided to prospect the mine with as much thoroughness and dispatch possible. A triple compartment shaft was consequently started a short distance from the entrance to Prof. Lane's old tunnel. It was expected that the vein would be encountered on its dip, but its discovery above the 100 level is said to have been a surprise to those directing that work. Since then the shaft has been pushed down to the 300 level, where a water flow of about 2,000 gallons a day has been encountered. Since the option was taken up the property has been closed down excepting the surface work now being done. It is expected that little work will be done underground until the shaft is sunk 600 feet. Contracts have already been let for this work and the splendidly timbered shaft will be pushed down the remaining 300 feet as rapidly as possible. By so doing the time allowed under the terms of the option for exploration purposes, some 1,000 feet of drifting was done in addition to sinking the shaft 300 feet. On the 200 level about 700 feet of drifting was done which includes a cross cut of about 250 feet to a second vein of which there was evidence in the old tunnel. This second vein was run into a few feet and a body of ore of unusual dimensions but of similar character to the main vein, has there been discovered.

The drift on the strike or the main vein on the 100 level is about 320 feet long. Two cross cuts have been run across the vein from this drift at a distance of 300 feet apart. Both of these crosscuts show a great deal of fine grained chalcopyrite evenly distributed through the vein for a distance of approximately 35 feet. In addition to the quite uniform distribution of fine copper pyrite, is located the Imperial cement under the management of A. B. Lewis. The property is located at the head of Loeber's canyon and it offers the steepest and longest grade in the whole country. For upwards of a mile the grade is such that only small loads can be hauled to the mine. A very good showing of copper has been made in an upper tunnel. A gratifying shipment was made from this tunnel early in the year. Owing to its difficult access work has been abandoned in the upper tunnel and the company is bending its energies to tapping the ore in a lower tunnel about 300 feet deeper. Two shifts are employed in this tunnel which is being driven through the Massachusetts claim owned by Samuel Newhouse. It is in over 500 feet and the extremely hard rock which has been encountered for some time past is now giving place to rock that is more easily worked. In the face of the tunnel patches of chalcopyrite are being found in the rock which is considered an encouraging sign. The securing of water has been a serious obstacle but that has been overcome for the present by the development of water in three small shafts. Some water has also been tapped in the tunnel, but the company is by no means out of the woods on the water question, though it is believed that more will be developed when it is needed. As in other properties where steam is used, the company relies on the cedar on the hills for the greater part of its fuel.

More than half way down Loeber's canyon from the Imperial is located the Washington mine. No work has been done there for some time. A shaft was sunk about 250 feet, but after drifting some distance in a well defined vein on the lowest level the expected ore chute was not found and the owners have temporarily abandoned the prospect. Fine looking quartz watered with galena has been found all the way down, but the pay streak has not been tapped.



THE OLD CACTUS SMELTER AND MILL.

Located in Copper Gulch and bought two months ago by Samuel Newhouse for \$250,000.

ries there is a frequent occurrence of large kidneys and wide streaks of solid chalcopyrite containing about 25 per cent copper. The occurrence of the wide streaks of pyrites of copper is less pronounced in the drifts on the 300 level, but a fine quality of milling ore is exposed everywhere, which runs about 5 per cent on an average. About 200 feet of drifting has been done on the 200 level and the vein has been found to be 65 to 80 feet wide. About 200 feet of drifting has been done on the strike of the vein on the 200 level. The vein appears to be wider there as the crosscut has been run 135 feet and the other wall has apparently not been reached. This crosscut shows a fine quality of milling ore all the above distance, but the rich streaks and kidneys occur less frequently apparently from which it is inferred that while the vein is much wider between walls on the 300 level is somewhat higher grade on the 100 and 200 levels. Mr. Turner is in charge at the mine and Mr. Stingley is acting as book-keeper.

THE BLACKBIRD.

For some time past this wealthy company, of which Dr. P. A. H. Franklin is manager, has not been doing much work, but the developments in the Cactus group has evidently inspired the company to enter upon the development of its Copper Gulch property with more energy. The company has a group of twenty claims adjoining the Cactus on the west in addition to its large possessions in Lemhi county, Idaho. Work has been stopped at all the Idaho properties and the company intends giving its entire attention to Copper Gulch. At present a force of thirty men is employed under the direction of Gordon Hutchins. This force will be increased to nearly fifty men in the next few weeks. The company has built a new office and is now erecting bank houses for the men. An addition is to be made to the boarding house, after which the company will have things moving along in good shape. A number of men were employed the latter part of November grading a road to the new shaft, which is to be sunk on the hill above the canyon a short distance northwest from the Cactus shaft. The company already has a shaft down 215 feet from the bottom of which 200 feet of crosscutting has been done. A flow of water has been encountered which is unsuitable for cooking, owing to the presence of copper. The company has a steam hoist at this shaft and some low grade copper ore has already been encountered similar to the Cactus. It is the intention to resume sinking in this shaft shortly as well as in the new main shaft on which work has just been started. The Blackbird company is the fortunate owner of a good spring, the water from which will be piped for use at the camp in the canyon. In addition to the shaft which is to be connected with the main shaft at a depth of about 190 feet.

LOEBER'S CANYON.

Across the hills from the Horn Silver some two or three miles away as the

one of the most interesting propositions in Beaver county, notwithstanding the production of three-quarters of a million dollars a number of years ago. At that time its discovery proved the salvation of those who erected a smelter at Prisco for the treatment of the ore of the Horn Silver. The fixing of the ore of that bonanza was a problem unsolved when the Cave property was purchased from its discoverer. He lived near by and had dreamed of a cave in the hills adjoining his humble abode, which was filled with treasure. The dream led him to start prospecting and he found the first of the great caves in the limestone which have proved to be veritable store houses of wealth. The ore in the cave was much as valuable as later discoveries. In the meantime a smelter had been built at Prisco and it was found that the iron ore in the Cave was the only flux in the district for the ores of the Horn Silver. This led to its purchase by the owners of the smelter, who were made wealthy by the unexpected riches thereafter disclosed. The mine, which is located on the foothills a few miles southeast of Milford, is really a succession of caves, which have been found to be filled to a greater or less extent with ore carrying a small percentage of lead, with as high as 100 ounces silver and from 1 1/2 to 2 ounces gold per ton.

It has been developed by a tunnel about 2,000 feet long, which gives the company a vertical depth of about 1,500 feet. The tunnel is nearly on the water line. The ore extracted has been taken from various points above the tunnel and the company has recently started prospecting with a small force and other important disclosures are looked for. The showing in the mine is wonderful to contemplate. The trouble at present is that the ore is low grade, containing a high percentage of iron but its value in the precious metals, iron carrying 60 per cent metal is not uncommon in the Cave, and in several places in the old bonanza a body of iron ore is exposed which is 120 feet in vertical walls. The ore is an oxide of iron and the magnitude of the deposit is one of the most impressive sights in the district.

MILFORD COMPANY.

The Milford Mining and Milling company is one of the latest Beaver county incorporations. The company owns a valuable group of claims in Star district. Included in the group is the "Last Chance" claim, which was at one time incorporated and produced several thousand dollars. A well defined fissure is found on the claim which outcrops at the highest point of the mountain. At present the company is prospecting in the "Horn Silver" claim. No deposit of shipping ore has yet been found, but the continuation of a strong fissure is shown which is believed to be the extension of the Harrington-Hickory vein. The company has good showings in several places along the course of the vein and the prospect of the pay streak being found is considered very encouraging.

BEN HARRISON.

The development work done during the past year on ten claims of the Ben Harrison Mining company has

days of the settlement of Utah. At that time the soldiers found some of the big ledges from which several million dollars was afterwards taken. The deposits of ore existed on the surface and, owing to a number of big faults the continuity of the ore to the depths below the old workings, but it was not determined. At one time about 5 per cent of the ore was found in the Mono property in Dry canyon. It proved to be incorrect, however. A rich streak of ore was intercepted in the tunnel below the old workings, but it bears little resemblance to the fine deposit near the surface from which between \$2,000,000 and \$3,000,000 were taken years ago. The ore is high grade and the streak is being followed with the hope that it may lead to large ore bodies in place. The tunnel is in about 2,700 feet and work is being continued by Matt Gishorn, who shipped a couple of cars of ore during the year.

HIDDEN TREASURE.

A small force has been working at the Hidden Treasure group during the year, and some very good ore has been taken out and marketed. It is being operated by T. R. Jones and Adolph Stolper on a lease. The shipping ore is being obtained from a tunnel in about 700 feet.

UTAH QUEEN.

Across the gulch from the Hidden Treasure lies the Utah Queen, which is being prospected by Messrs. Merwick and Graham of Connecticut, under the direction of Morris R. Hunt. Some men have been engaged in the work during the greater part of the year. The operations have resulted in the shipment of about \$12,000 worth of ore carrying lead, silver, copper and gold. The owners are employing some 12 men sinking an incline now down 300 feet and also in drifting from different places in the incline. The property is so to look very encouraging, and it is the intention of the owners to continue work all winter. The vein is a contact, and though it is not large, it gives indications of leading to something much better.

BROOKLYN.

The old Brooklyn, which produced heavily many years ago, has also been the scene of some activity during the present year. It is owned by Henry W. Lawrence of Salt Lake City, but it has been leased to the parties who are developing the Utah Queen. The work at the Brooklyn consists in drifting a tunnel and also in sinking a shaft. Some drifting has been done on the vein but thus far only low values have been found.

PLYMOUTH ROCK.

The Plymouth Rock and Mahogany claims are being developed by Percy Sowers, Joseph Erickson and others. A tunnel has been started to cut the vein. It is now in nearly 100 feet, and it is the intention to continue work in the tunnel during the winter. The claims join the Queen of the Hills which has produced over \$1,000,000. A little work is also being done on the Jones property, which joins the Mono, but several of the other old producers still remain idle.