

# Deep Creek Country, a Land of Great Opportunities



THE Deep Creek country is situated west of the Ogauqui range of mountains in Tooele and Juab counties, Utah, and extends westward over into the northern part of Nevada. The first camp west of Salt Lake City is known as the Dugway district. It is a low range of mountains, about 50 or 100 miles west of Salt Lake City. This formation is principally limestone underlain by quartzite. The minerals are the copper, silver and gold. The copper group in this camp was the first to attract the attention of the prospectors. From it has been mined some very rich silver ores. This district gives promise of a heavy lead ore tonnage with the necessary amount of systematic development work and necessary railroad transportation facilities.

**MANY PATENTED CLAIMS.**  
A great many claims in this district are patented, but the major portion of them are still held by the possessor right. The following are some of the prominent properties of this district:

**Yellow Jacket, Buckhorn, Silver King, Golconda, Metalic Hill, St. George, Utahna, Dugway Mining, Eureka-Golconda, Pennant, Black Warrior, Francis, Bryan, Red Metal, Sunday, Four Metals, Ocean, and scores of others.**  
Considerable work is now being performed in this district with good results.

**FISH SPRINGS SECTION.**  
About 25 miles south of the Dugway district is the camp of Fish Springs, situated in the northern end of the Fish Springs mountains. This is the location of the Utah property which has paid \$220,000 in dividends. The Galena adjoining the Utah, which has also a dividend record, but is now under bond to the Utah company and will become one of its important assets. The Emma, the Bonny, Doon, and numerous other patented properties and locations, are in this region and most of them could ship if railroad transportation facilities were available, but at the present time only the high grade ores from the Utah and Galena mines are shipped, which go out by wagon, it being necessary to haul a distance of 65 miles to the nearest railroad point.

**CLIFTON AND ITS COPPER.**  
About 50 miles north of the Fish Springs district is the camp of Clifton, which is approximately 12 miles square and is bounded on the south by the Overland canyon through which the Overland stage before railroads, conquered the west passed on its route to California. In this canyon numerous battles were fought with the Indians, and the district was discovered by a detachment of Gen. Connor's army, which was stationed at the head of the canyon in order to protect the overland travel from the Indians.

**THE FIRST LOCATION.**  
The first lode mining claim in this district was located by the soldiers about 1,200 feet northwesterly from their quarters and was called the Overland. From this point northward for a distance of 12 miles is a continuous belt of mineralized country. The lodes and patented claims run up into the thousands.

Clifton Gulch, which is about the center of the camp, at different times has had two smelters in operation in the past 20 years, neither of which were successful in winning values from the rock and were abandoned; the slag dumps are still in evidence today.

**FROM GOLD TO COPPER.**  
It is reported by parties interested, who should know that this property sold in gold and silver bullion \$187,000, not taking into account the rich ores stolen by the miners and the amalgam stolen by dishonest mill hands. This mill was in operation for many years for several years until the oxidized ores were largely worked out and base ores in the form of copper began to appear, when the property as a free milling amalgamation proposition was abandoned and remained idle until two years ago, when a bond was secured from J. H. Woodman—one of the heirs of the late J. E. Woodman—since which time development work has been prosecuted with men and money as fast as the openings on the ore would permit. The copper ore has now been explored for a distance of 450 feet on the dip below the outcrop. It is estimated by competent engineers that there is enough ore in sight in this property today to pay the entire purchase price, build a smelter and build 30 miles of railroad. This property consists of 20 patented claims in four different groups in the Clifton camp. The ores are almost entirely copper carrying characteristic value in gold and silver of a gross value of about \$20. The copper is in the form of carbonates and oxides. The gang is largely iron and the ore so far developed will mine approximately neutral as to iron and silica.

**OTHER IMPORTANT PROPERTIES.**  
A few of the most important properties in this camp are as follows: Gold Hill, Alvarado, Cone Springs, Christmast, Hammerberg-Dunyon, McChrystal et al, Gardner and Rodenhous properties, Silver King, Chandler and Watson, S. D. R. Gold company, Polk Star, Wilson Brothers, Monarch, Colveras, Oroville, Nodine, Lucy L. Cyclone and Leap Year, Ward Robinson, Independence, Bonanza, Wolcott, Kinney, Carmen, Erickson, Tripp, Tucson, Toulson, Edwards, Maroff, Mosier, mining Harrison Mining, Evans, Brewer, Midas, Henry Martin, Richards, Calendar, Snowstorm, Troy, and hundreds of other properties too numerous to mention. It is safe to say that on almost every claim embraced in any one of the groups, show more or less ore on the surface. The country is a wonderfully mineralized section. The formation is principally lime, granite, quartzite and porphyry.

**LAND OF OPPORTUNITIES.**  
There never has been a like opportunity in the west for mining operations as this camp affords, and it is doubted if many camps with the surface showing that is to be found in this camp will ever be found in the west again. The reason that this camp has been idle up to the present time has been on account of there being no railroad transportation facilities.

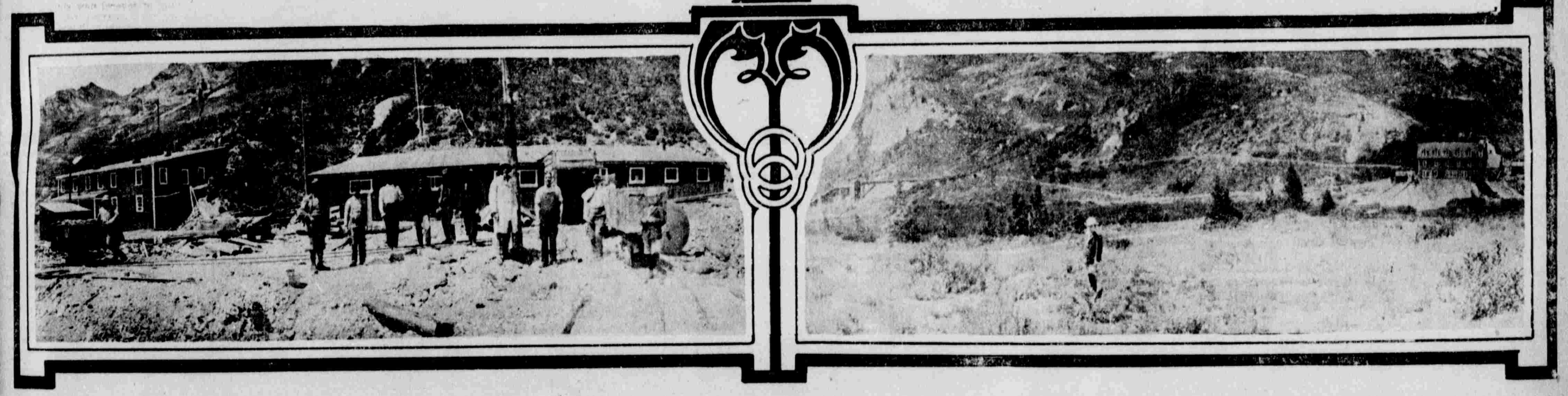
To the Deep Creek prospector and miner the mention of a railroad has, for years, been a dream, but the recent building of the Western Pacific in such close proximity to this camp indicates that it will soon be one of present realities, and the prospector's dream of nearly 50 years will soon be realized. Until the past two years, the district has been one of the poor but sturdy miner, but substantial talent became interested two years ago. These interests have been increased until now the camp is on the eve of a most vigorous campaign. With the advent of a railroad into this camp, it is only reasonable to believe that the majority of properties mentioned, with intelligent management, will pay their own development work until they are placed on a dividend basis.

**POWERFUL INTERESTS THERE.**  
The Gold Hill properties are now owned and controlled by the Western Utah Copper company, a powerful syndicate made up of mining men whose operations in the west have been of an eminently successful nature. The officers of this company are W. S. McCormick, President; Duncan MacVie, Vice President; H. H. Green, secretary and treasurer, and these officers together with F. Augustus Heine, E. L. White, Henry N. Sweet and Judge John A. Street constitute the board of directors.

**RAILROADS GOING IN.**  
The Western Pacific anticipates the building of a branch into this district in the early spring, and it is rumored that the San Pedro, Los Angeles & Salt Lake road will build from West Tintic via Dugway, Fish Springs and Clifton, on into the Nevada camps. The section of the country between the Clifton mining district and the camp of Ely has only a single track, a superficial way, and leaves a wide area of inviting mineral country for the miner and prospector.

The climate in these camps is good; work can be performed during the entire year. They are easy of access. In the valleys between the mountain ranges are fertile ranches where products find a ready market with the miner and prospector.

## AERIAL TRAMWAYS MAY SOLVE ORE TRANSPORTATION PROBLEM FOR ALTA



**OLD FLAGSTAFF MINE NOW OWNED BY THE CONSOLIDATED FLAGSTAFF COMPANY.**  
ANOTHER year has been allowed to pass without providing facilities for the more economic transportation of ore from the mines at Alta to the sampling mills and smelters of the Salt Lake valley. Twelve months ago the outlook for the construction of a railroad, at least part way into camp, seemed bright. The Continental Transportation company was organized for that purpose after the promoters of the enterprise had secured a lease, to run for a term of years, on the right of way owned by the Rio Grande Western Railroad company. However, the project failed. Considerable money was expended in making surveys up the Little Cottonwood canyon and all the necessary data relative to grades, cost of construction, etc., were obtained. But the work stopped there, and Henry M. Crowther, one of the prime movers of the project, has reached the conclusion that the building of a road above Wasatch is not a feasible proposition, at least, at this time. The cost of construction, he says, would be enormous on account of the heavy grades and insists that the expense of maintenance would be so great that, all things considered, a railroad up to the mines is out of the question. Mr. Crowther is a champion of the aerial tramway system and declares this plan will be the only successful method of moving the great tonnage to come from the mines of the Little Cottonwood district in the future. It was at his suggestion that the directors of the Continental Alta Mines & Smelters corporation, of which he is general manager, consented to the construction of the five-mile tramway system from the mines of that concern above the town of Alta down to Tanners Flat, where a small milling plant was installed. While the tramway has been a success, except that it failed to escape damage from snow slides last winter, it might have been just as well if the Continental company had delayed the building of the system for at least a year, and in the meantime devoted more energy than appears to have been the case, to mine development. However, now that it is built, the tramway should become a source of considerable revenue to the company by doing a custom ore haulage business in addition to taking care of its own ores.

**MAY BUILD LONG TUNNEL.**  
But Alta operators do not all concur with Mr. Crowther on this transportation question. Some take the view that the aerial tramway will never be a complete success because of the annual cessation of snowslides in the canyon, and believe, therefore, that the problem cannot be solved in any other way. The plan of driving a long tunnel, which would also serve the purpose of drainage, as an effective way moving ores down the canyon cheaply, has its adherents. But these are questions to be worked out in the future.

**A BIG CONSOLIDATION.**  
Probably the big event of the year in Alta is the consolidation of the South Columbus and Alta Quincy under the name of the South Columbus Consolidated Mining company. Recently, upon a broad scale. With all the necessary shrewdness at hand with which to carry out its plans for the future, there is every reason to believe that this will become a successful and profitable mining venture. The organization was effected by those who control the destinies of the Columbus Consolidated mine, which, at the present time, is the principal producing property of the camp.

**COLUMBUS CON. TO FRONT.**  
Those who expected the Columbus Consolidated to pay its initial dividend this year have been disappointed. However, the year has a little more than two weeks to run and this

important event may yet be pulled off. Twelve months ago, the Columbus Consolidated was heavily involved in a financial way, but since then, every obligation has been cleared up and the treasury of the company now contains a large balance of cash on hand. Shipments of crude ore have been made as regularly as the steamers upon whom the management has had to depend to reach the market with its tonnage, would permit. The mill has been kept in operation at about half capacity, while at the same time development has been persistently and energetically prosecuted, resulting in the opening of new ore bodies, therefore greatly increasing the ore reserves of the mine. Indeed, the Columbus Consolidated will begin the new year in splendid condition and its management should soon begin to give some return to the shareholders who have patiently awaited the time for them to participate in the drawing of bread money. The company has kept pace with the times in the way of making improvements and owns one of the best equipped mines in the west.

**MILL IN PROSPECT.**  
The Albion Mining company controlled by William Hatfield of Provo and associates, has put in its time doing development work and with highly gratifying results. Little has been done towards getting out shipments of ore, but the mine is in excellent shape for the inauguration of them early in 1907. An immense tonnage of mill ore has been developed and plans are being matured for the installation of a mill equipment in the near future.

**REJUVENATION OF FLAGSTAFF.**  
The rejuvenation of the old Flagstaff and Emma mines is an event worthy of note and it is to the credit of William M. Westland, John A. Kirby and Joseph Lippman of this city that these once famous mines have been brought into a state of activity again. Through their solicitation, a wealthy Milwaukee syndicate joined them, resulting in the

organization of the Consolidated Flagstaff Mining company which is now driving a deep tunnel to tap the auriferous veins lying up millions of wealth in the past.

In the early days of Alta, the Flagstaff and Emma mines were noted producers of lead-silver ore. Everybody seemed to know something about them. They were considered to be immensely valuable, but the British cousins who put up the initial money and development never realized much from them in the shape of dividends, owing to having been the victims of a game of systematic pilfering carried on for months by dishonest employees to whom the management of the mines had been entrusted. In those days only the highest grade ore was sent out of camp, for there were no means of handling the low grade material to a profit and consequently, much of it found its way into the waste dump. The Consolidated Flagstaff company, however, has been marketing this "waste" and realizing

therefrom a very handsome revenue which has gone a long way towards meeting the annual operating expenses. The tunnel has also penetrated several ore bodies, yet the avenue will have to be pushed ahead a considerable distance further to tap the main ore bearing channels.

**WHAT CONTINENTAL HAS DONE.**  
The Continental Alta Mines & Smelters corporation has been doing considerable development work. But since the snowslides of the early part of the year smashed up the aerial tramway, the mill on Tanners Flat has been out of commission. The tramway has been repaired, however; but has been utilized only in the conveyance of supplies to the mine and in bringing ore down the canyon from other operating mines of the camp.

**SALE OF CITY ROCKS.**  
One of the important mining deals of the year in which Alta property is involved was the taking over of the

City Rocks mine by a syndicate of Michigan capitalists, who have since displayed a great deal of activity in its development. Great expense has been gone to in the installation of new machinery and one of the latest improvements is an aerial tramway connecting the mine with the Continental Alta's roadway over which it is sending ore to market.

**SOME OF THE NEW ONES.**  
The Secret Mining company is one of the new incorporations of the year and has undertaken the development of an attractive property situated in a favored part of the camp. It is probable that this company will become a shipper next year. The Columbus Consolidated Mining company is another new corporation; so is the West Columbus and all of them have been vigorous in their campaign of exploration. The Pioneer and Superior Alta and other properties have also done their part towards building up a greater Alta.

**ONCE A BIG CAMP.**  
Although the camp once contained a population of about 5,000 souls nothing remains of the old town. During the quarter of a century in which scarcely no mining of any kind was done, the buildings disappeared. Some of them were destroyed by snowslides, while others were hauled away and utilized in the construction of farm and ranch buildings. The camp was in the prime of its early activity in the early 70's and up to that time was reputed to have produced upwards of \$20,000,000. The old Flagstaff mine is said to have yielded up \$8,000,000 worth of ore; the Emma, \$5,000,000; the Vallejo and North Star, \$2,000,000; Prince of Wales, \$2,000,000; Grizzly, now a part of the estate of the Consolidated Alta Mines and Smelters, \$1,000,000; South Star, \$1,000,000; City Rocks, \$250,000; Albion, \$800,000; Frederick & Crown Prince \$250,000 and a number of others of which no record was kept.

**DISCOVERY OF EMMA LODE.**  
The great Emma lode was discovered in 1868 and then followed the excitement which brought miners from other parts of the new center of attraction. The discoverers of the Emma lode worked there awhile and took out considerable ore which was either sent to San Francisco or to Swansea, Wales, for treatment. But in 1871, a half interest was sold to New York parties for \$250,000 and a year later the entire property was turned over to an English syndicate for \$500,000.

Alta is again one of the big camps of Utah and in the production of ore ranks fourth, being preceded by Bingham, Tintic and Park City. By the harnessing of the waters of Little Cottonwood creek, the mines at Alta are provided with abundant power; several plants are located in the canyon from which the mines and mills of the camp are supplied with electrical energy.

## STOCKTON AND OPHIR SHOW INCREASED TONNAGE

**TOOELE county has a trio of good mining camps—Stockton, Ophir and Mercur, from which it is drawing a wealth of gold, silver, lead and copper, to supply the inhabitants of the earth. While none of them are as large as some others mentioned in this annual review, they nevertheless figure conspicuously and are counted in among the important ore producing districts of the state.**

**PROGRESS OF CYANIDATION.**  
Rumors of proposed changes in the plan of treatment at the plant of the United States Reduction & Refining company at Colorado City seem to grow daily, both in number and veracity. If later history should justify the genuineness of these rumors it would be significant indeed; for the concern referred to has been almost alone in the United States in practicing what was once supreme in the solvent extraction of gold—the chlorination process. The proposed is said to concern the amalgamating and cyaniding of the ore, and whether this citadel of chlorination as a whole has been invaded by cyanida-

tion, or whether the change concerns simply a part of the old plant and its process, is not stated; but the very proposal to make even a partial substitution means much for the present tendency of the wet extraction of gold. For the change, if made, will not be adopted as a matter of sentiment, but only after a searching comparison of costs.

**CAPITAL ATTRACTED.**  
Capital was attracted; but it soon became apparent that the great ledges of the district could not be reached without some means of unwatering the mines. Experience proved that pumping was too expensive and finally the scheme of driving a drain tunnel was hit on, resulting in the organization of the Hornerne Tunnel company of which the late P. L. Kimberly and E. H. Buhl of Pennsylvania were the principal backers. In this great undertaking more than \$250,000 has been spent and the present length of the adit is around 11,000 feet. It has been pushed into the mountain far enough to connect with the workings of the Hornerne mine, as well as the Black Diamond and Southport, two other properties of more or less prominence. The adit is still being continued and will eventually furnish an outlet for the ores of the Galena King and intermediate mines.

**PRINCIPAL PRODUCER.**  
The Hornerne Mining company is the principal producer of the Stockton district, and the mine and mill recently resumed operation. The Black Diamond Mining company has been making headway, both in the development and extraction of ore. The New Stockton Mining & Milling company has succeeded in opening some very extensive bodies of mill ore during the year and a

limited quantity of high grade ore. But a tonnage of the former grade sufficient to warrant the erection of a large mill has been blocked out and the management will probably give attention to this matter in the near future. It is also the intention to install an aerial tramway system, which will greatly facilitate the movement of ore and supplies in the future. The Southport Mining company is one of the few new Stockton incorporations to the credit of 1906. This company is backed by local and eastern people and will probably become a shipper early in 1907. The Katherine Mining company is actively developing its ground and recently began suit against the Hornerne company, charging trespass and unlawful extraction of ore.

**THE CAMP OF OPHIR.**  
The camp of Ophir has kept pace with its neighbors. The Ophir Hill Mining company, of which Senator William A. Clark of Montana is the principal shareholder, has kept up its usual production of ore and concentrate. The Clifton Mining company, composed of a syndicate of Michigan capitalists, has been active in the development of the Buckhorn mine and has also an aerial tramway nearing completion which is to operate between the mine and the town of Ophir, where it may later provide for mill facilities.

There is a well founded rumor afloat that it is the intention of Senator Clark to build a branch railroad into camp during the coming year to connect with the main line of the San Pedro, Los Angeles & Salt Lake at St. Johns. It is figured that with the traffic on ore from the Ophir Hill, Buckhorn and other mines, together with the freight traffic into camp, the road would soon be able to pay for itself. The camp has never had a brighter outlook for the future.

**ELECTROLYTIC REFINING.**  
There are in practical use two electrolytic refining processes, viz., the Moebus and the Balbach. These differ in the means adopted to prevent the spongy silver deposits from reaching the anodes and short-circuiting the cells. Certain objections to these processes appear, among which are the ungainly apparatus used, high resistance of the solution, collection of the silver in a loose condition with consequent trouble and the necessity of inclosing

the bullion anodes in cloth bags to keep the gold out of the electrolytic silver. There are also certain chemical objections in the requirement of anodes practically free from other metals than copper and silver and the more precious metals. Lead in the anodes is said to lead into lead peroxide, especially when the solution contains copper, and this lead peroxide is hard to get out of the gold residue.

Present progress in the recovery of silver is in the direction of collecting the silver of the ores ultimately as an anode slime from the electrolytic refining of base metals. This anode slime will contain the bulk of the ore, and this is at present merely wasted, the amount thus lost apparently being considerably greater than the total present consumption of the metal.

Electrolytic refining is a process in which the metal to be refined is dissolved in a solution of its salt, and the refined metal is deposited on a cathode. The process is used for refining copper, silver, and gold. It is a very pure method of refining and is used by many large refineries.

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