

New Railroad and Development Work Helps Tooele

OVER in Tooele county, mining conditions are "looking up." That county has several good camps and not one of them is on the wane, notwithstanding that some of them were in existence when the mining industry in Utah was in its swaddling clothes. On the contrary, they continue to make steady gains as development work progresses.

Stockton, in particular, has been making rapid strides as shown by the recent developments made in the Honerine, Stockton and other mines. In Deep Creek, the building of the Western Pacific railroad towards San Francisco, has given that region such a stimulus that the coming year promises to be one of great activity there. In Camp Floyd district, the Consolidated Mercur Gold Mines company has been wonderfully successful in the development of new reserves and the management has given out the information that the tonnage in sight has been more than doubled during the past 12 months. This fact is indeed important for the town of Mercur, for it was not very much over a year ago that it was said of the Consolidated Mercur that its panny days were ended. That events of the year have certainly disproven such theories. The Sacramento, also in Mercur, has been going along in about the usual way with the production of quicksilver an important by-product.

At the Overland, at Sunnyside, the eastern bondholders have responded to another assessment and propose to determine without delay if the property can be developed into a paying proposition.

about \$75,000, when the cyanide process, which came into use about that time, changed the complexion of things. Success triumphed and all claims as well as franchises of the nation are well aware of what followed. Mining received a stimulus in Utah and the gleam which came with the shutting down of the silver mines cleared away almost entirely. The success of the cyanide process at Mercur, indeed, marked the beginning of a new era for mining everywhere.

The Consolidated Mercur, Sacramento and Overland mines are the only properties of any consequence now being operated in the Camp Floyd district. The two former are at Mercur and the latter is located at Sunnyside.

Importance of Con. Mercur.

The Consolidated Mercur is the most important mine of the district, and by the end of the year, it will have paid out to its shareholders a total of \$1,105,000, which sum, added to the amount paid out by the original Mercur and Golden Gate mines, brings the total up to \$3,285,312.75.

It is gratifying to note that the present year has brought a return of prosperity to the Consolidated Mercur company, which is evidenced by the fact that the mine is again found in the dividend column. The company is now employing a force of a little over 400 men in its mine and mill and distributes in wages in the camp each month no less than \$35,000, or a little more than \$1.00 per day.

Conditions Have Improved.

At the recent annual meeting of shareholders, General Manager George H. Dern submitted an interesting re-

port on existing conditions at the end of the fiscal year—June 30, in which he is quoted as saying:

"The past year has been an interesting and important one in the mine. Broadly speaking, the work has largely consisted of re-opening the older workings. Early in 1904 the property was in a very precarious condition. A considerable portion of the mine was caved, and had been abandoned as worked out. This seemed surprising in view of the fact that the various blocks of ground had never yielded anything like the quantity of ore indicated by the original development. Our more recent operations have made it clear that the caving of the various shafts was not due to the exhaustion of the ore, but to faulty mining. This mine was in the first place quite intelligently prospected and developed; but the same good judgment was not displayed in the selection of mining methods. We have done a great deal of prospecting in virgin territory during the year, and have opened up much new ore, but a large share of our work has been in going back into the old shafts, driving through caved ground with tunnel sets preparatory to mining by the moving system. This has been a very dangerous kind of work, this often seems dangerous; but, as a matter of fact, when done by men accustomed to it, it is as safe as running unmined tunnels in new ground. Hence, there has been apprehension on the score of safety, the principal thing to look out for being the keeping of solid bottom on all drifts and not to drive over any open caves, which might let the floor of a drift through. We have been very successful in this respect. The single exception being the disobedience to orders on the part of contractors who were breaking ore by the car. But, of course, this sort of work takes great quantities of timber, which run up the cost of the ore while we are blocking out. Furthermore the drifts are not made very large, so they do not produce much trouble as they progress. Again, while in some slopes the cave drifts are all in one just as if they were in a virgin ore body, in other places the material contains a large quantity of waste rock, the waste often exceeding the ore. The ore from such places, naturally, is pretty expensive. Taking the foregoing into consideration, it is not hard to understand why our mining costs increased a little during the year."

Increased interest is being manifested in the Dry Canyon district, adjacent to Ophir. One property—the Eureka-Ophir, was bonded to Charles H. Doolittle, manager of the Bingham-New Haven mines of Bingham, several months ago and that gentleman is opening up that ground in very good shape. The mine is responding to development quite satisfactorily and gives every promise of blossoming out into a producer of considerable magnitude.

OPHIR DISTRICT.

In Ophir canyon, the mines have been active during the year. Considerable effective development work has been done there, while the production of the camp has been fully up to normal, although the Ophir Hill company, the principal producer of the district, has not sent out of its mines as much tonnage as it did during the preceding year. This, however, does not go to indicate that the Ophir Hill company has been less active, but is accounted for from the fact that the mill has been working on the old tailings dump, which had accumulated during former years when methods for treatment were more crude than they are today.

ing another important producer to the camp's present list. Mitchell parties are operating a property adjoining the Ophir Hill group, and a number of others are undergoing development.

Interest in Dry Canyon.

Has Many Drawbacks.

The great drawback to the camp at the present time lies in the apparent apathy of the property owners, who either hold out for big prices or else are not concerned in the operation of them themselves. Dry Canyon has several good properties and were they in proper hands, the chances are that they would not long be in the present state of inactivity.

STOCKTON'S PROGRESS.

Stockton, one of the pioneer mining camps of Tooele county, has made good progress during 1903, and it is on the eve of entering upon a great era of production. If its mines continue to respond to development in the future as they have during the past 12 months, the time is not far off until this old camp will rank well with Bingham, just over the summit of the Ogden range of mountains.

While the Honerine, Black Diamond and other mines have responded favorably to development, none have recorded more important discoveries than the Stockton Gold Mining & Milling company, of which J. J. Treman of Salt Lake is the manager.

Tunnel Saved Camp.

Until the great Honerine drain tunnel project was undertaken, the future of Stockton seemed anything but bright. In the early days of the camp the mining industry prospered there, but when the rich surface deposits of lead and silver became exhausted serious problems confronted the mine owners and, to the area of limited means, the difficulties were unmountable. It required the introduction of outside capital to work them out.

Many thousands of dollars were spent in the purchase of pumping machinery, but this means of removing the water, which had flooded the mineral zone for ages did not prove feasible. The cost of operation was too great to make even the mining of high grade ore a profitable proposition. It was after these trials that the efforts put forth to penetrate the mountain with a long drain tunnel crystallized and became a reality. Mine owners, after numerous conferences, concluded to join issue in the great undertaking, the strong companies bearing the bulk of the burden, while the weaker ones were willing to do their share. The organization of the Honerine Tunnel company was the result. The Honerine Mining company taking the larger portion of the stock.

While the work of driving this great out was under way, several years ago, it was not until about the beginning of the present one that results began to show. The great dyke which had held the water in check and served, it may be said, as a wall to a great reservoir, was cut through. Then came the recedence. Water flowed from the mouth of the tunnel in great torrents, and the water seemingly dropped out of the various shafts and levels, finally be-

coming high and dry. With this much accomplished, a revival of activity took place and the camp began to produce again. The Black Diamond Mining company was one of the first to be benefited and inaugurated shipments; the Cyclone, Cyclops and others resumed development work.

The task of pushing the drain tunnel ahead has progressed throughout the year and at the present writing the total length is 8,942 feet. A number of important ledges of ore have been encountered in the Honerine company's ground and the management of that corporation is now engaged in "connecting up" with the old mine workings and getting ready for a great campaign of production during the year 1904.

The Honerine Mill.

The Honerine company's big milling plant has been late for several months, but as soon as ore begins to move through the tunnel it will go into commission. The plant has made a very successful run during the year on some of the tailings dumps in the district. When these were cleaned up operations ceased to await the opening of the tunnel for ore traffic.

The Honerine is recognized as being one of the biggest mines in the state and will, if nothing unforeseen happens, make an enviable record of production during the next calendar year.

had rather believed it would, it nevertheless has inspired the hope that the builders of the new line will be disposed to reach out for business by the building of branch lines to the principal camps.

With this fact in view and knowing that railroads usually display a disposition to go wherever the managers see tonnage sufficient to justify it, owners of claims are becoming more active in inquiry for Deep Creek property, more pronounced than ever before and, on the whole, the outlook for the region has materially improved since a year ago.

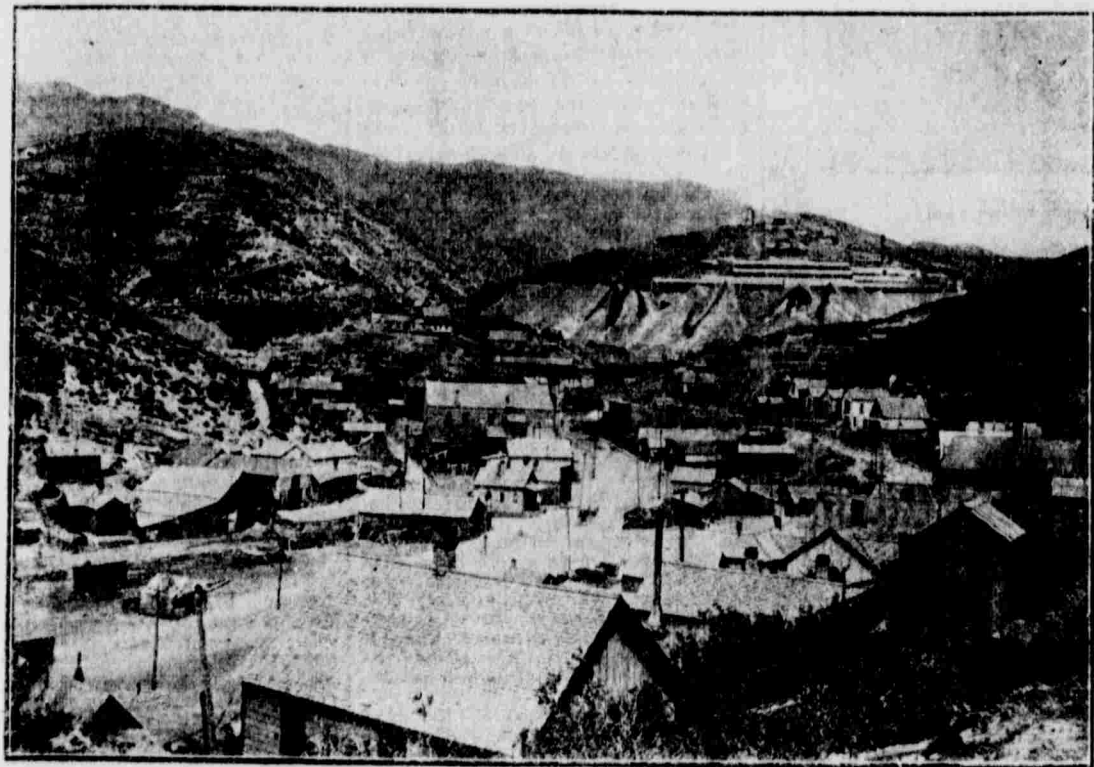
McViech at Clifton.

In the Clifton district, which is a part of what is commonly called the Deep Creek region, this is particularly true. Here Captain Duncan McViech, manager of the Bingham Consolidated company, and associates, have been conducting a quiet, but vigorous campaign of exploration of the gold hill mine and with encouraging results. The McViech brothers, principal stockholders in the Lucy L. Mining company, have also been busy with a small force of men during the year and are doing fine improvement in the property now under development. The Clifton Copper Belt Mining company has done little more than the usual assessment work. The New York Grant company has done a limited amount of development work.

ed by the Utah company something over a year ago, has been under development and has responded favorably. Deep Creek is a land of great possibilities. If it could just get only a small portion of the enthusiasm that has been worked up over a few of the Nevada camps, it would not be long until its fame would spread throughout the land.

Along at Christmas.

If in this age of organizations humankind there is room for one more, it is for an organization which would bring together, especially on Christmas, those who are alone in the world, particularly women, says the Ladies' Home Journal. Many of us who have our kin closest to us on Christmas day do not stop to realize what our feelings would be if they were not with us. It is so hard to imagine ourselves in a position other than that the one we are in. We remember some poor family at Christmas, but at least it is a family. It is together. The one is company for the other even in poverty. We remember the sick and God bless those who do. Would that some of us might cast a look around and give a thought to those who are not sick, who are not perhaps poor as the world's junk, and who are alone—some girl, perhaps, alone; some old man, alone.



MERCUR, UTAH'S CYANIDE GOLD CAMP.

tion. The caving of the shaft about the middle of a new one and this work is now in progress. The property is being opened under the direction of E. W. Clark, manager of the Ophir Hill mine at Ophir and that gentleman has expressed the utmost confidence that the mine is going to make a good account of itself in 1904.

MERCUR'S GOLDEN WEALTH.

MORE than \$12,000,000 worth of gold has been taken from the mountains of the Camp Floyd district and the greater portion of this vast aggregation of wealth has come from the Consolidated Mercur Gold mines.

The foregoing does not include, however, the many thousands of dollars extracted from the rich silver-lead deposits that were worked so profitably away back in the 60's, but represents the output of the district since the introduction of the cyanide process for the treatment of gold ores in the 90's.

Was Once a Silver Camp.

In 1870 and 1871, the gulch where the town of Mercur now stands, was a busy silver mining camp. It was then known as Lewiston and retained its identity until about the year 1880, when the profitable mining of ores in that district ceased.

The Carrie Steel and the Sparrowhawk, were probably the best known mining claims located in the district in those times—in the 70's. Silver was the principal production, but gold ledges were not entirely unknown then. Prospectors frequently found outcrops of gold ore which assayed well, but would not show a color in the pan. This conditions was looked upon with distrust and suspicion. Miners could not understand how the assayer could get returns when no color were visible. But mineralogy was not so well understood then as it is now.

Discovery of Cinchabar.

The presence of cinchabar was known when Lewiston was a thriving mining camp.

A report for the year 1871 states that "there is also a vein affording cinchabar of low percentage." The government report on mineral resources makes fuller mention of cinchabar discoveries in the district, and states that a test made on a 100-pound lot of the ore gave an average of 4 per cent quicksilver. This was evidently considered to be low grade for profitable handling, or else the statement was incorrect. At any rate, quicksilver mining was not attempted. A few years later, however, the deposit again attracted attention, and on April 20, 1873, Aris Pinedo located a claim on this cinchabar vein, naming it "Mercur," after the mercury in the ore. This claim he patented, and it subsequently became the nucleus of the gold camp, giving its name to the Mercur mine, as well as to the new camp, which in 1890, sprang up on the site of the defunct Lewiston.

So persistent were the stories of the existence of big gold ledges in the Camp Floyd district that a syndicate of Nebraska farmers—who were John Dern, John Badmiller and Ed H. Aris—decided to try their luck at mining. They were commonly referred to as the "Nebraska farmers," and their operations were looked upon generally in the nature of a joke. No one in Salt Lake had any idea they would succeed in the venture; that it would be another case of the "tenderfoot dropping his wad."

When It Looked Gloomy.

It certainly looked as if failure had overtaken them when it was demonstrated, in 1890, that the amalgamation mill built in the camp would not save the values which the ore contained. The Nebraska farmers had already spent

port on existing conditions at the end of the fiscal year—June 30, in which he is quoted as saying:

"The past year has been an interesting and important one in the mine. Broadly speaking, the work has largely consisted of re-opening the older workings. Early in 1904 the property was in a very precarious condition. A considerable portion of the mine was caved, and had been abandoned as worked out. This seemed surprising in view of the fact that the various blocks of ground had never yielded anything like the quantity of ore indicated by the original development. Our more recent operations have made it clear that the caving of the various shafts was not due to the exhaustion of the ore, but to faulty mining. This mine was in the first place quite intelligently prospected and developed; but the same good judgment was not displayed in the selection of mining methods. We have done a great deal of prospecting in virgin territory during the year, and have opened up much new ore, but a large share of our work has been in going back into the old shafts, driving through caved ground with tunnel sets preparatory to mining by the moving system. This has been a very dangerous kind of work, this often seems dangerous; but, as a matter of fact, when done by men accustomed to it, it is as safe as running unmined tunnels in new ground. Hence, there has been apprehension on the score of safety, the principal thing to look out for being the keeping of solid bottom on all drifts and not to drive over any open caves, which might let the floor of a drift through. We have been very successful in this respect. The single exception being the disobedience to orders on the part of contractors who were breaking ore by the car. But, of course, this sort of work takes great quantities of timber, which run up the cost of the ore while we are blocking out. Furthermore the drifts are not made very large, so they do not produce much trouble as they progress. Again, while in some slopes the cave drifts are all in one just as if they were in a virgin ore body, in other places the material contains a large quantity of waste rock, the waste often exceeding the ore. The ore from such places, naturally, is pretty expensive. Taking the foregoing into consideration, it is not hard to understand why our mining costs increased a little during the year."

Immense Ore Reserves.

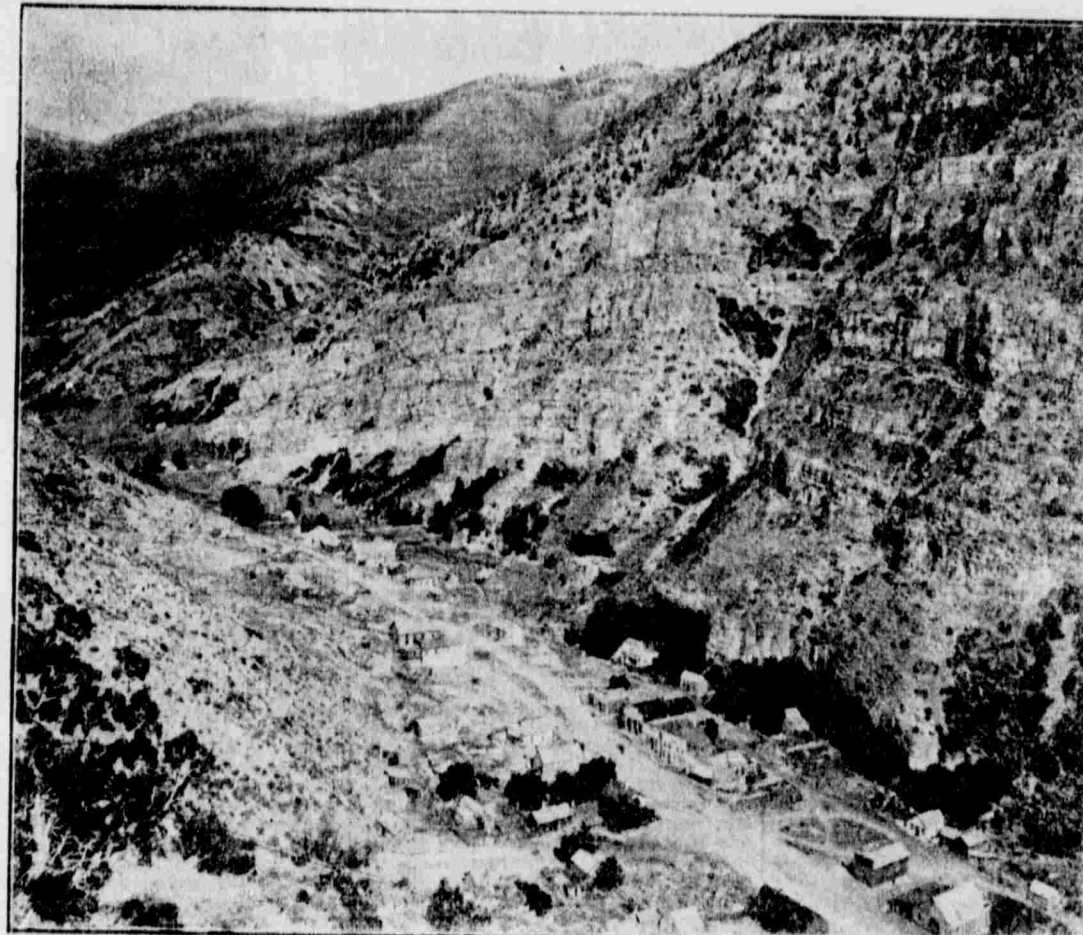
At the close of the fiscal year 1904 Manager George H. Dern estimated that the ore reserves in the mine at that time were sufficient to justify the statement that the property could be operated for at least two or three years without the development of new ore bodies. In his last report he had expressed the opinion that the developments of the year had doubled his former estimate. Since June 30, the campaign of exploration has been carried forward in a most vigorous manner and has added many thousands of tons to the reserves.

In Virgin Territory.

In what is known as No. 122, which is the virgin territory, the developments of the past few weeks have brought about some interesting disclosures and the weekly averages of the ore opened up show gold values of \$3.99 to the ton. This mine is in the eastern portion of the mine. The ore body is undoubtedly a very large one, but its magnitude is yet to be determined. Important developments have been made recently in the No. 14 incline, which penetrates the Magdalen vein in the Third North level and which has been run to the surface. More recently, the Fourth North level has been started. It, too, has opened into ore and will be driven to the surface, when the open cut method of mining the ore will be applied. So, all in all, the condition of the big gold property has not been in as good a physical condition as it is today in a good long while.

New Improvements This Year.

With the mine continually showing



LOOKING DOWN OPHIR CANYON.

STILL CRY DEEP CREEK.

THE building of the Western Pacific railroad towards the Pacific coast has put new life in the Deep Creek mining district and a recent arrival from there brings the information that this fact is plainly evident in this great undeveloped region, which covers the western portions of Juab and Tooele counties over the Nevada state line. While the new road will not penetrate the heart of the district, as some

J. P. Gardner, M. E. Evans and other salt lake have been carrying on a tireless campaign and by the time the district has transportation facilities these well known mining men, who have been digging away for years out in that quiet, unexplored area, will be able to make a good account of themselves at the sampling mills and smelters. The Utah mine at Fish Springs is still the principal producer of the Deep Creek region. The condition of this property has improved materially since a year ago, the proof of which is shown by the return of the mine to the dividend column. The Galena mine, owned

New Appendix Theory.

Among the latest to advance expert opinions on the mission of the mysterious vermiform appendix is Philip Schuch, Jr., the Denver chemist. "The vermiform appendix," declared Dr. Schuch, "is the appendix of the intestine, and the opening into the intestine are large enough to admit a good sized needle. I have proved conclusively to myself that air congregates in this bulb and that it acts in the same manner as the bulb on a syringe or the chamber of a force pump in giving material assistance to the expulsion of the contents of the intestine."

THE UTAH RESERVATION, ITS "LOST" AND REAL MINES

BECAUSE of the fact that the Utah Indian reservation was not open to the location of mining claims until late in the fall, little was accomplished in the mountains of this vast region by the hordes of prospectors who flocked into the country immediately following the formal opening of last September.

But this region will undoubtedly be heard from during the coming year, as it is believed to be a country of great possibilities, with every indication that some good mines will be found there. The southern portion of the "reservation country" is already noted for its vast deposits of hydro-carbons, but metal mining, or to what extent it may be carried on, is one of the things for the future to determine.

Wonderful stories of wealth have been brought in from the Utahs in days gone by; but their truth will only be proved by development. People have heard of a "lost Spanish mine," also the "Rhodes gold mine," which are still shrouded in mystery. Placer gold has been found in considerable quantity along the Duchesne river, which has probably come from ledges somewhere

up in the eruptive zone where the junction of the Uintah and Wasatch mountains.

Rich in Hydro Carbons.

But for several years to come it is likely that the hydro-carbon section will be the scene of the principal mining activity, for here are located the most valuable deposits on the American continent. They lie, according to the conclusions of William S. Smith, who has made a careful study of the geological structure of the country, in the upper part of the Tertiary strata, and in this case, above the coal measures,

cropping out at the surface.

Gilsonite Widely Known.

Gilsonite is the most widely known and was the first of the hydro-carbons to be mined on the reservation. It derives its name from Sam Gilson, who is still alive and actively engaged in mining in the hydro-carbon districts of Carbon county. The ground where Gilson made his discoveries was later taken up by the St. Louis Gilsonite company, which has operated it for years and still owns it. The company now owns over 7,000 acres, which was acquired through arrangement with the Indians, prior to the opening of the re-

servation and through a special act of Congress. The vein on which the St. Louis company is four feet in thickness and located between vertical sand rock; it is three miles in length and of unknown depth.

Four Miles to the Northwest is the Property Operated by the Haven Mining Company.

On the east side of the Green River are other vast deposits owned by the St. Louis company; some of the veins here have a breast of ten feet, others untouched, are of even greater thickness. The product is shipped over the Utah railway to Mack, Colorado, where it makes a junction with the main line of the Rio Grande Western. Gilsonite, like coal, has been produced by the accumulation of vegetable matter in fresh water basins. It is used extensively in the manufacture of varnish, and by a marvelous upturn, the waters were let out, and rushing down the valley of the Colorado set going the processes that eventually gave up one of the wonders of the world—the first canyon of the Colorado. This seems plausible, at least, to the reflective, unprofessional mind knowing the capacity of this wonderful basins.

Sand Asphaltum is Found in Immense Deposits and is Utilized at Vernal and Fort Duchesne in Making Sidewalks and Street Paving.

Coal of a fair quality has been mined on the reservation for several years, and also in the vicinity of Vernal, and evidence of it appears in many localities. There are old springs and bitumen lakes where cattle mine, and these springs have been taken as evidence of the existence of petroleum, but the formations and conditions are by no means conclusive on this point. Other hydro-carbons exist, and still others will be discovered, since the mineral lands are now all to be open to location.

Nature has Surely Supplied us with the Extravagance in this region, and experienced miners meet with conditions here not found elsewhere in the states.

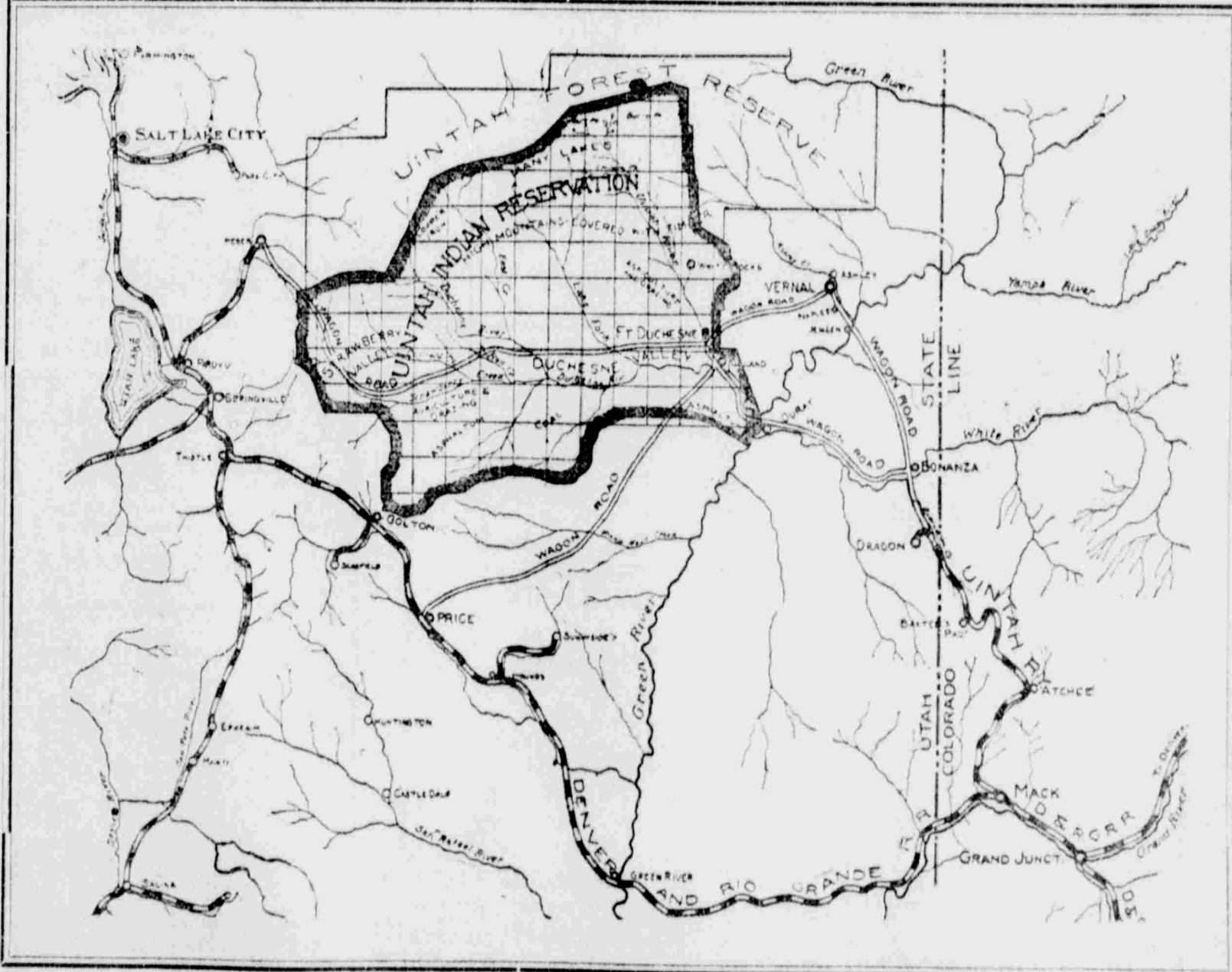
This was evidently an inland sea, and by a marvelous upturn, the waters were let out, and rushing down the valley of the Colorado set going the processes that eventually gave up one of the wonders of the world—the first canyon of the Colorado. This seems plausible, at least, to the reflective, unprofessional mind knowing the capacity of this wonderful basins.

Sand asphaltum is Found in Immense Deposits and is Utilized at Vernal and Fort Duchesne in Making Sidewalks and Street Paving.

Coal of a fair quality has been mined on the reservation for several years, and also in the vicinity of Vernal, and evidence of it appears in many localities. There are old springs and bitumen lakes where cattle mine, and these springs have been taken as evidence of the existence of petroleum, but the formations and conditions are by no means conclusive on this point. Other hydro-carbons exist, and still others will be discovered, since the mineral lands are now all to be open to location.

It was back in the seventies that the first discoveries and assays were made of these minerals. There was found along the trail from Salt Lake to Santa Fe and near Soldier's Summit, a black mineral wax which proved to be asphaltum, and by blending the carbon from it with a white paraffin wax was left, which is now of great practical utility.

In the vicinity of Canon, on the Rio Grande Western railroad, are extensive deposits of this mineral. The building of the Moffat road from Denver to Salt Lake will do much towards the development of Utah county's mineral resources. At present, excepting some of the properties of the St. Louis Gilsonite company, the mining districts are without convenient means of transportation.



MAP OF THE UTAH RESERVATION AND SURROUNDING COUNTRY.