

Reawakening of Mining Enterprise at Pioche, Nevada.

JAMES W. ABBOTT, a well known mining engineer and metallurgist, has, on several occasions in making a careful examination of the mines and geological conditions and has followed up all observations by an interesting article, giving some idea of the early history of this most interesting Nevada mining district.

Pioche, the county seat of Lincoln county, Nevada, is situated 35 miles almost due north to Carson road from Elko, a station on the San Pedro, Los Angeles and Salt Lake railroad, 125 miles from the Carson road, 125 miles from Elko, and 125 miles from Reno. It is a branch line now in process of construction from California to be opened to Pioche in September of this year, when the town will be reached by rail from Salt Lake City and 435 miles from Los Angeles.

Lincoln county, a picturesque town of 1,400 feet altitude, the branch railroad runs for about six miles through a canyon. This wilderness of trees and green fields, the site of an extensive agricultural settlement known as Paria. Again the line penetrates a canyon, very narrow in places and about three miles long, when the valley is opened up, followed to the south by the northern slope of the Pioche spur of the Elko range. From the valley there is a gentle rise to the town of Pioche, which lies at an altitude of about 3,800 feet.

PIOCHE FAMOUS YEARS AGO.

After the vicissitudes that marked the early history of the Comstock and other mines, Pioche was with a few exceptions, the only mining camp established in Nevada secured from the mining world that intense interest which had been given to California. In spite of the fact that Pioche, in its early days, was a mining camp, the absence of railroads and settlements, the adventurous prospector gradually scattered over Nevada, the camps of Austin, White Pine, Pioche and Ely, and the small ones, sprang into life and added their record to the growing frenzy. Next to Virginia City, with its world-renowned bonanza, Pioche was for years the most famous mining camp of that period.

William Hamilton, one of Brigham Young's missionaries to the Indians, was visited at the camp, but such a delegation of his wards, who had brought with them some panacea, which in their language meant "silver ore." He soon closed a bargain to pay them for their information, and going with them found and located the Panacea lode, which was his phenetic interpretation of the Panacea. Hamilton returned to the States, told his find, and brought in other prospectors, who made locations.

INDIANS INTERFERED.

For years Indian hostilities delayed the opening of the camp, but each year visits were made to it and many of the locations were kept alive. In 1868, F. L. A. Pioche deputed Charles E. Hoffman to purchase for him some of the rich claims. Pioche was a mine of France, an argonaut of '48, and reputed to have been very rich. Hoffman was a metallurgist of considerable note. He secured from Pioche some of the best claims, which he later conveyed to the Meadow Valley Mining company, a corporation organized by him for that purpose. This company soon acquired other properties and became one of the two principal factors in the region, and Pioche's camp came to be known as Pioche.

John H. Ely and William H. Raymond, who had been operating un-



BUSY OLD PIOCHE AS IT LOOKS TODAY.

No. 7. Dump of No. 9 originally operated by the Pioche Mining Company on the north, or Meadow Valley branch of main vein.
No. 8. Meadow Valley No. 7 dump, on north branch of main vein.
No. 9. Dump of cross cut tunnel to Burke mine, on south branch of main vein. Shaft obscured by shaft house.
No. 10. Shaft house, over Meadow Valley No. 5, on north branch of main vein.

No. 5. Dump of Yuba, or American flag, on the porphyry dike. A great producer.
No. 6. Dump of Arkansas, a cross vein from the dike.
No. 7. Dump of the Washington and Creole, on the south branch of main vein.
No. 8. Dump of the Chapman, on cross vein from the dike.
No. 9. Dump of the Hub and Hunt on cross vein from the dike.

No. 10. Dump of the Maseppa, on the porphyry dike.
No. 11. Dump of the Desdemona, a cross vein.
No. 12. Meadow Valley No. 3 east of the fork, on north branch of main vein.
No. 13. Dump of the Newark, on the porphyry dike.
No. 14. Mouth of Zero tunnel running off towards the south.
No. 15. Dump of the Hub and Hunt over Panaca shaft, west of the fork on main vein.

Out of this shaft came most of the ore from which the Raymond and Ely Mining company paid seventeen dividends, aggregating \$2,115,000 between March, 1871, and September, 1872.
No. 16. Susan Duster hoist.
No. 17. Dump at mouth of Amador tunnel. The mine is now generally known as the Williams.
No. 18. Pioche west shaft house, belongs to Ohio-Kentucky.
No. 19. Nevada-Utah machine

shops and Pioche Water company's lower tank.
No. 20. Alberta, one of the Ohio-Kentucky group.
No. 21. Shaft over the Independent, now used as Nevada-Utah No. 1.
No. 22. Upper water tank of the Pioche Water company. About 400 feet east of this tank the porphyry dike dips under the shale.
No. 23. Here a porphyry dike crops up through the limestone.

usually in a district considerably farther south, gave in a little after Hoffman and secured an option on the Burke claim, which soon developed into a high-grade mine. They then organized the Raymond & Ely Mining Co., which at once became the great rival of the Meadow Valley.

The surface ore was principally born silver (chloride), argente (silver sulphide), and cerussite (lead carbonate), in varying proportions. Naturally the first attempt to reduce them was with cyanide. The necessary material for this was packed on mule-back from Elko on the Central Pacific railroad. It had come by way of San Francisco around the Horn, for the railroad still lacked hundreds of miles of a connection with the Union Pacific. The fire-bricks came from Glasgow, Scotland, and were said to have cost over a dollar apiece.

It was a most wasteful process, but the ore was so rich that it yielded a profit. Hoffman had added another Frenchman named Chubb, had erected one, and so had Raymond and Ely, before everyone realized that the excessive cost of fuel and the price of the lead-silver bullion to distant refineries that levied heavy charges, and the impossibility of obtaining sufficient lead to recover all the precious metal in the rapidly increasing output of ore, necessitated the adoption of some other method.

Raymond and Ely bought in a five-stamp mill that they had used in their southern operations, and erected it near Panaca on a natural millsite, which came to be known later as Bullionville. It was a crude affair, crushing with 70 lb. stamps, vats, pans, and settlers. The ore was simply crushed

and amalgamated in the pans, without chemicals or heat. In many months they crushed ten tons per day, half the precious contents went into the tailing, there was a cost of \$30 per ton (which probably included mining and hauling), but there was a daily profit of \$500, and the Raymond & Ely Co. prospered greatly.

MEADOW VALLEY MILL.

The Meadow Valley company erected an elaborate 20-stamp mill at Dry Valley, 10 miles east of Pioche, at a cost of \$50,000. The metallurgist was Alexis Janin, who had acquired valuable experience at White Pine. Here the regular Washoe process was practiced with salt, copper, sulphate, and heat, but the lead-silver bullion to distant refineries that levied heavy charges, and the impossibility of obtaining sufficient lead to recover all the precious metal in the rapidly increasing output of ore, necessitated the adoption of some other method.

Raymond and Ely bought in a five-stamp mill that they had used in their southern operations, and erected it near Panaca on a natural millsite, which came to be known later as Bullionville. It was a crude affair, crushing with 70 lb. stamps, vats, pans, and settlers. The ore was simply crushed

and amalgamated in the pans, without chemicals or heat. In many months they crushed ten tons per day, half the precious contents went into the tailing, there was a cost of \$30 per ton (which probably included mining and hauling), but there was a daily profit of \$500, and the Raymond & Ely Co. prospered greatly.

SMELTER AT BRISTOL.

A smelter was built at Bristol, 20 miles to the northwest to treat the rich ores of that locality, and later a stamp mill with pans and settlers was erected, and still later another smelter.

All this activity meant life at full tide. The following are a few of the high lights in an intensely interesting picture: A daily line of six-horse Concord coaches carrying U. S. mail and Wells-Fargo express to the Central Pacific railroad at Palisade, through Hamilton (White Pine), a similar line to Salt Lake City, both operated by the famous Western stage men, Gilmer and Salisbury; three daily lines, two of them running six-horse Concord coaches to Bullionville, three lines of railroad organized to build into Pioche with the utmost possible speed; the Salt Lake City, Sevier Valley & Pioche railroad, running approximately parallel to the anticlinal fold in the quartzite, which has been raised between two fault-planes to a height considerably above the flanking members. This vein splits.

saloons, three hurdy-gurdies (dance-halls, two white and one variegated), 32 saloons de jure, with intimate connection in the last four items, two good theaters, two breweries, two gravity water systems with street mains and fire plugs, and two horse companies, a lively stable with 300 horses, and a population in Pioche and immediate vicinity of about 10,000 people.

PIOCHE RANGE.

The Pioche range in an east and west anticlinal fold, about 15 miles in length with Pioche near its center. Joining on the west the Highland range, the general direction of which is a little west of south. The formation normally consists of Cambrian quartzite below, in the middle and limestone on top. The composition, texture, and metamorphic condition of each member differs in different places, but the quartzite is hard and tough, so that there is little tendency to disintegration either at surface or underground.

Facing the town, there is a typical fissure-cone, runs nearly parallel to the anticlinal fold in the quartzite, which has been raised between two fault-planes to a height considerably above the flanking members. This vein splits.

RAYMOND'S OBSERVATIONS.
Dr. R. W. Raymond, then United States commissioner of mining statistics, visited Pioche in 1872 and his observations are recorded in "Mineral Resources West of the Rocky Mountains," 1873, pages 176 to 180. Imagining his reader standing on the summit where this vein forks, he says: "Behind him rises the mountain, before and

below him clusters the town of Pioche. To the right the two divergent branches of the vein are thickly set with shafts and hoisting works. They differ in their course about 20 degrees. To the left (west) the single vein continues, having a break, caused by a barren cross-course of brecciated mineral, which is intersected by nature to help the miners. West of this bifurcation the Meadow Valley company holds 300 feet, east of the same point the same company holds 1,500 feet of continuous mining ground, through the whole of which the workings of the company extend, constituting a magnificent mine. Next to the Meadow Valley mine on the west comes the Panaca mine of the Raymond & Ely company, containing the most remarkable body of high-grade ore now to be seen on the coast."

BIG PORPHYRY DYKE.

Several hundred feet south of this vein, between it and the top of the mountain and also running approximately east and west, is a porphyry (rhyolite) dike, which has probably played a controlling influence upon the formation of all the ore bodies in the hill. Running into this dike in various directions, through it, across it, and alongside of it, are seams of all sizes and kinds. Upon the veins and seams above described were located the claims of the numerous companies whose varying fortunes constituted in the main the history of Pioche, a history so complex and involved that no analysis of it could be made in a short article. Remoteness from the railroad, the inevitable change in the character of the ore with depth was gained, legal controversies, quarrels about how the drainage

should be handled, and the water problem generally below 1,500 feet, frenzied gambling on the San Francisco Stock exchange, the failure of the Bank of the West (which bankrupted some of the principal stockholders in both the great companies) were all contributing factors in the decadence and that mar- atale that followed our times.

NEW DAY IN CAMP.

A new day has dawned for Pioche, again to be opened. Large bodies of ore that could not be handled properly in the early days are still left in the veins, and the water-level, the water exists above the water-level, the water which splendid bodies of ore were closed before the pumps were built, and that is to be found where the water and the dike join will not be less until the junction is reached, but the reason is to expose important bodies. The old dumps at Bullionville, many of the district possess ore known to be worth \$3,000 per ton, and this material will all be profitably mined. The district has actually produced what has been received for ore and bullion, never before known. There is good reason to believe that it exceeds \$300,000. This came principally from \$300,000. The new Pioche will be able to produce a large amount of bullion, and in large quantities are now found in Pioche and its tributary camps.

The Nevada Utah Mines & Smelters corporation owns a property near the Raymond & Ely mine, and the Valley companies, including some of the best mines in the Bristol district, the Half Moon and Manhattan groups, and its joint holdings with the Ohio Kentucky.

OHIO KENTUCKY MINE.

The Ohio Kentucky Mining company (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the main porphyry dike of the region runs through this property. The company owns jointly with the Nevada Utah Mines & Smelters, the Phoenix Reduction company, (a Newhouse corporation), over a group of which the Susan Duster, a comparatively new discovery of ore, a promise, has been most developed. A porphyry dike having no known connection with the