

Midway, Belmont, North Star, and Tonopah Extension, the principal development work has been done.

There are six formations overlying the lower ore-bearing formations. As shafts have to be sunk several thousand feet before cross-cutting for a vein, scientific acumen and business sagacity are called into play.

The Tonopah mine, in which the first discovery of mineral was made (May, 1900), was also the first successful mine. The vein outcropped for a short distance on the surface and was sufficiently rich to bear all expenses of shipping to smelters in California and Utah. The mine is now 1,000 feet deep. The lateral developments exceed five miles in length. Ore blocked out for stoping is valued at \$20,000,000. A milling plant within 12 miles treats 2,000 tons of this ore weekly.

On the Montana mine, where gold was next discovered, the vein is covered by several hundred feet of rhyolite. The shaft was located and sunk at a point accurately calculated to be on the line of strike of the vein eastward. The Montana ships 1,000 tons of ore weekly.

There are numerous other mines hardly developed to the producing point. Several are shipping, but in less quantities than the Montana.

The Tonopah is not a poor man's field. The ore-bearing andesite formations are covered by several hundred feet of rhyolite and other volcanic rocks, and shaft sinking is expensive. The veins are large, regular and uniformly rich at depth. Electric power is obtainable from the generating stations utilizing the hydraulic power of streams in the Sierra Nevada. A number of important mining centres are being developed near Tonopah.

GOLDFIELD.

Gold was accidentally discovered at a watering place in the desert 20 miles south of Tonopah in 1903. In 1905 gold to the value of \$3,500,000 was obtained from nine of the principal mines. Last year the production was \$10,000,000, and this year it is estimated at 127,000 tons of ore, valued at \$12,700,000. More than eighty important mines are in course of development. Many of the mines have been handled by lessees. Speculation in stocks has been most pronounced. Stock sales during 1907 totalled \$25,162,567.

BULLFROG.

Bullfrog goldfield is situated eighty miles directly southwest of Tonopah. Several important mines have been developed. Topographically it is similar to Tonopah and Goldfield.

The Western, Northern and Eastern fields are all active.

Nevada promises to become the leading gold-producing State before long.

The *Mining Journal* (London), December 21st, 1907. —Reviewing a St. Petersburg despatch, the *Mining Journal* takes up the question of exploiting Russia as a market for mining machinery and supplies. As a result of mining engineers resident in or visiting Russia the *Mining Journal* comes to the conclusion that if Russian conditions and idiosyncracies are carefully studied and responsible agents appointed who shall have an absolutely free hand, then the chances are excellent. A hint is given that the matter of "tips" must not be overlooked. The market for gold mining machinery in Russia is free. The highly primitive conditions under which gold is mined in Russia and the favorable light in which British manufacturers are regarded are indicative of a rapid extension of trade.

The *Chemical Engineer*, December, 1907.—A short article in this number outlines a process for making Portland cement from materials high in magnesia. Magnesia has heretofore been regarded as having a most deleterious effect upon cement. The possibility of using limestones high in magnesia will bring vast new fields into commercial prominence.

The process, for which a patent has been granted to Richard K. Meade, of Nazareth, Pa., consists in mixing with "cement rock" sufficient high magnesian limestone to bring the lime and magnesia in the mixture up to the proper ratio to the silica, iron oxide, and alumina. The mixture is then ground, burned, and a small percentage, preferably from 1 to 10 per cent. by weight of calcium chloride is added to the clinker and the mixture ground to the requisite fineness. Calcium chloride should be added in the proportion of 2 to 8 of magnesia.

Gypsum or plaster of paris may be added, if necessary, to regulate the set. Calcium chloride, however, is better. The calcium chloride combines with the free magnesium oxide in the cement when the latter is mixed with water, and forms with it an oxychloride compound of great cementing properties. The resulting mixture of Portland cement and oxychloride cement has greater strength and binding properties than Portland cement itself.

Personal and General.

Mr. George H. Dickson, of the International Coal & Coke Company, Coleman, Alberta, is in Toronto.

Mr. H. M. I. Weir, C.E., recently of Cobalt, passed through Toronto on his way to his home in Brantford.

Mr. Milton L. Hersey, of Montreal, visited Toronto on the 8th inst. Mr. Hersey has left for London, England, where he has been retained to give expert chemical evidence in an important case.

INDUSTRIAL NOTES.

Hearing of the important changes that the B. Greening Wire Company, Limited, of Hamilton and Montreal, had made in their premises lately, we thought it would be of sufficient interest to publish a cut of these buildings as they appear to-day. Anyone who has seen these works within the last few years prior to last May will recognize that a vast improvement has been made; in fact that a portion of the works altered would not be recognized. These premises now occupy portions of three separate blocks.

On the southwest corner of Queen and Peter streets the firm erected a new weaving mill 260 by 130 feet, and in order to get light to this large building they adopted the saw-toothed roof, making this one of the best factory buildings in Hamilton. Here are installed all the heavy looms from the Napier street weaving mill, together with several additions, amongst which are the additional screen cloth looms installed this year. It was the intention to remove the old screen cloth plant to this building, but the firm felt they could not afford the time, so that will remain where it is until after next season's trade, when it is the intention to take the temporary end out of the new weaving mill and build on an addition sufficient to accommodate all of the weaving plant. As stated above, the firm has added many new looms of practically all types, so that they are now in a position