THE FACTS ARE ...SUFFICIENT...

THE discovery of gold in Hastings County in 1868 created tremendous excitement, and mines and mills became very numerous. The now almost deserted village of Eldorado testifies by its name to the great expectations of mining men in those days. Several properties proved only rich pockets, and this, together with the difficulty then met with in treating the refractory ores of the larger mines, and the contradictory testimony of geologists and experts in regard to the formation being against led to a long period of inactivity, or work of a desultory character.

The companies now operating successfully have wrought a great change in the importance of the district mining. The larger companies, however, are wea English or American concerns not looking for capital hence, the progress of the district has not been brough fully before the public as it deserves. For this reason the *Marmora Herald*, with the assistance of a few munici palities of the district, has issued this booklet. Every statement in it is as accurate as it is possible, practically

to secure it. The aim has been to understate the case rather than err on the other side.

Few values are given, as it is thought that a description of the work being done would be a better basis for an opinion than the mere statement of values. Nor are all the mines described, and for the same reason, that the facts in regard to a few are as likely to lead to an interest in the district as would a more complete list.

No attempt to create a boom is made. The facts are sufficient.

Belmont Gold Mine.

This mine is situated in Belmont Township, Peterborough County, and partly in Marmora Township, County of Hastings, eight miles N.W. of Marmora Village. It was discovered in 1891 by H. Strickland, now of Peterborough, and was purchased by A. W. Carscallen, M.P., of Marmora. It was pretty thoroughly prospected in the following years and was known to be a valuable property from the clear indications of immense ore bodies. The mine was sold in 1897 to the Cordova Exploration Company of Newcastle, England. This company erected a 10-stamp mill, put in an air compressor and complete plant and began operations. In the autumn of 1900, the company were satisfied, from the developments done, that the quantity of ore would warrant a larger plant and a 30-stamp mill was built and completed in February of 1901, at which date the following description was written.

The Mill.

The new mill is 175 x 90 feet and 85 feet high. It is substantially built, neatly finished, painted and well lighted. The thirty stamps are driven by 150 h.p. Corliss engine with main shaft 6½ inches in diameter running behind stamps. The engine and shaft are strong enough to extend the mill and run 120 stamps if necessary. Pulleys on main shaft to drive stamps are equipped with friction clutches so that ten stamps can be hung up completely without slowing the engine. From the side of the engine is a 5 foot pulley

OFFICE, WAREHOUSE AND AIR COMPRESSOR

AIR COMPRESSOR

20 STAMP MILL AND CYANIDE PLANT
BELMONT GOLD MINE

driving belt up to stone breaker counter shaft inside of engine house; other end inside of mill and from there driven up to stone crusher main shaft overhead of crushers. Crushers are 10 x 20 and 7 x 10. The mill in this part has ore bin capacity of 600 tons.

The crushed ore on leaving mortar boxes flows over 36 foot plates with series of ten drops. From there it passes over six Wilfley tables driven by a separate engine with capacity for double that number.

Below this floor is the new cyanide plant. It consists of three large circular steel leeching vats, 15 feet in diameter and 4 feet deep. Below these are two circular steel gold tanks, 7 x 2 feet and further below are zinc boxes where the gold is precipitated by zinc shavings. Below these are two sump tanks 9 x 4 feet, and also three wooden acid tanks on this floor. Above the leeching vats are two other steel tanks 10 x 5 used for storage. This is the first cyanide plant ever used in this district, Deloro using Bromo-Cyanide. The cyanide plant is in charge of W. H. Whytock, who spent five years in the Rosedeep Mine in South Africa. The stamps and tanks were manufactured by the Wm. Hamilton Co. of Peterborough.

The engine and boiler house attached to the mill is 80 x 40 feet with a hallway 6 feet wide through the centre to enter the mill. The engine room on N.W. side is substantially built with 18 foot ceiling, and contains the Corliss engine already mentioned. The old mill engine is used for driving the dynamos for electric lighting. The boiler house contains two horizontal tubular boilers, set in brick with space for a third. There are the usual feed pumps, with National Heater to heat water over 200 degrees by exhaust steam before water enters the boilers.

Electric current for lighting is generated by two dynamos, driven from counter shaft by clutches. One generates current for the day when light is used in the mine and the other for night. It is a three wire system, this being preferred for its convenience, safety in mine and for better insurance rates. The dynamos have 600 light capacity with 250 lights now installed. There are abundant lights throughout the mine, shafts, mills, shops, office, manager's residence, store, boarding house for the

staff, etc. A large arc light over No. 1 shaft keeps the whole surroundings of the mine constantly moonlight as it were.

Behind the mill is a large tank house 112 x 20 x 20, connected with the mill by an aerial passage. It contains seven large water tanks 15 feet in diameter, 12 feet deep, with capacity to hold 75,000 gallons. The water supply comes from No. 1 shaft.

The Mine. No. I Shaft is situated just north of the mill. Sinking is going on in this shaft, which is now 385 feet deep. There are levels at 100, 200 and 300 feet depths. The level at 300 feet has been run 125 feet east. A cross cut to the hanging wall is 25 feet long. The shaft is supplied with five pumps, two of which are kept in reserve, and three drills. In a short time 400 feet depth will be reached. Possibly a level will be driven from there under No. 3 shaft, a distance of 1,200 feet on the lode. They expect to cut the junction of No. 7 lode at a distance of 700 or 800 feet.

No. II.—Just a short distance west of No. 3. This shaft has been sunk to 185 feet level of No. 3, and used for extraction of mucking ore from this level. At a depth of 120 feet the ore has been stoped out on both sides, on the west a distance of 200 feet.

No. III.—Situated about 1,200 feet east of No. 1. This as well as No. 1 has a large, well built shaft house, the most conspicuous object first seen when approaching Belmont Mine from Marmora. This shaft is being sunk, is now to a depth of 250 feet and is going down to a depth of 440 feet to make connection with the 1,200 foot level from No. 1 as above mentioned. There are levels at 90 feet towards E stoped to the surface, at 185 E, stoped also. On this level is another running south on a lode which is driven in 200 feet and goes underneath the big hill behind No. 3 where there are numerous outcrops. Still farther east than the south drifts, on the footwall side, is the junction of No. 6 lode. This is yet untouched. Three hundred and fifty feet west of No. 3 in bottom level there is a winze being sunk. It has a depth of 75 feet. This is

equipped with hoist and dumping frame and is being sunk for vent in lower level of No. 3.

No. IV.—Shaft is sunk on the lode running S.E. from No. 3 and has also adit level from hillside.

No. V.—Sunk 100 feet, cross-cut at bottom towards hanging wall on the south side is 50 feet. This is a wide lode of low grade ore. There are also drifts driven in at short distances on the 50 foot level of this shaft.

No. VI.—North of No. 3. It is 85 feet deep with drifts N.W. and S.E., at 75 feet depth.

No. VII.—Situated north of mill and No. 1 shaft. It is a large double compartment vertical shaft, equipped with double drum hoist. Depth 75 feet. Drifts driven to S.E. and N.W. As mentioned in describing No. 1 shaft, the lode from No. 7 will form a junction 700 or 800 feet E. of No. 1.

No. VIII.—At west of No. 7, is sunk only a few feet.

No. IX.—Located on north lode.

No. X.—Situated 600 feet east of No. 5. Sunk 40 feet.

These shafts cannot all be operated at present for want of power, which will be remedied in the near future.

The main lode of shafts 1, 2, 3, and 4 can be traced 2,500 feet, and the south lode can be traced an equal distance.

Notwithstanding the large number of shafts, drifts and levels, there are some lodes not yet touched.

Air Compressor. The air compressor is a frame building 140 x 60 feet and contains cross-compound air compressor with inter-cooler and after-cooler and condenser, 185 horse power with air receivers and air line from air receivers to the various shafts. High pressure steam cylinder, 125 pounds; low pressure steam cylinder, 25 pounds; high pressure air cylinder, 85 pounds; low pressure air cylinder, 20 pounds; two return tubular boilers in separate rooms with electric damper regulators, large water tank, 7,000 gallons capacity for coolers.

Water Power. The company own a most admirable water power at Deer Lake, a distance of two and a half miles from the mine. Two splendid dams have been built at the foot of the lake. The large dam is 80 feet long, 12 feet high, 13 feet thick at base and 6 feet at top. It is built of concrete and cement masonry. The other dam has a timber slide 20 feet wide for use of lumbermen and also a sluice gate to admit water to the floom pipe 7 feet square. It is contemplated to install a large air compressor and bring air to the mine through a 10-inch wrought iron pipe which will then supply power for the whole mine.

The saving caused by utilizing this magnificent water power can be partly appreciated when it is learned that 10,000 cords of wood are needed at the mine for power aud heating purposes.

Mr. Kerr's plan is to have ample stamp capacity in his mill and power cheap enough that the lowest grade ores can be so thoroughly treated at a low cost that practically all the gold will be extracted from the ore and thus make mining of all the ores profitable. In other words it is not his policy to rush the ores through without the most thorough treatment, which is necessary where power is expensive.

Other Buildings. The assay office has been enlarged. It now cousists of a brick building in two parts 20 x 38 and 20 x 20 feet. The larger part coutains a sample grinding room, where will be installed a motor sample stone breaker—underneath the floor of which is a 20 x 20 feet cellar for coke—aud a furnace room 20 x 18, equipped with combined gasoline furnace and muffle. The other part consists of a laboratory, 20 x 20, an office 10 x 10, and a balance room. The building is heated by furnace.

Several additional machines have been added to the machine shop. It is fitted up with a large turning lathe, 6-foot planing machine, two drill machines, pipe cutting and screwing machine and bolt screwing machine driven by a small air engine. This together with the three blacksmith shops on the mine enables them to make and repair any parts of the machinery.

A tramway has been built commencing at the level of the top of the mill to No. 1, north to No. 7, curving east and south to 6, 2 and 3. Ore is hauled along this tramway (level with top of mill) in cars containing ten tons, by one horse. This tramway will be carried to No. 5 and 10. It forms a perfect circuit for collecting the ore from all the shafts.

A large building for a general store has been built by the company. Connected with it is a post office, doctors' office, and store dwelling. A large number of dwelling houses have been built both by the company and by miners themselves, so that the place is fast taking on the appearance of a small town.

Mr. Kerr's residence has steadily been improved. It contains a natural water supply from the tanks above, is lighted by electricity and is being surrounded by ornamental trees and lawn which will in time make it an ideal residence. The residental headquarters for the staff has been enlarged and they too have most comfortable and commodious quarters.

Staff. The staff consists of D. G. Kerr, Manager; Thos. Thompson, Cashier and Bookkeeper; F. Turner, Assistant Bookkeeper; Geo. Hardy, Chemist and Assayer; W. H. Whytock, in charge of cyanide plant.

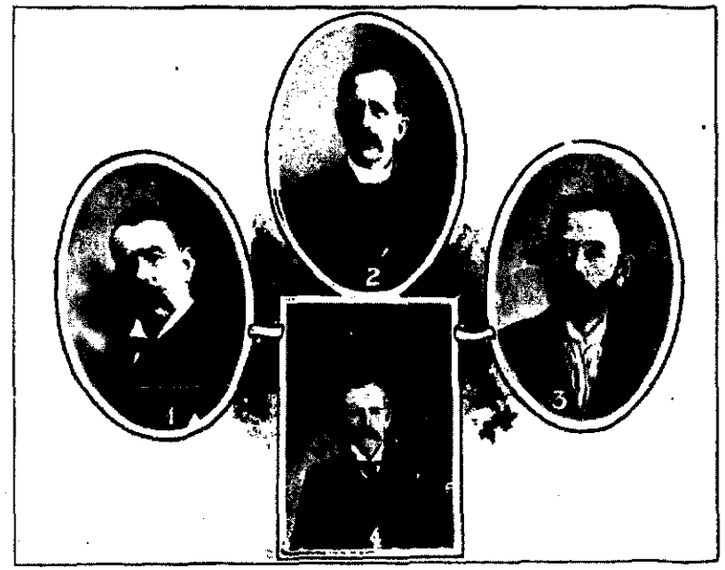
General. The property consists of 425 acres at the mine, 300 of which is in the township of Belmont and 125 acres in Marmora. At Deer Lake the company have 160 acres also.

The foregoing recital of facts in regard to this mine speak for themselves, and leave no need for comment from us. Manager Kerr has done work at the mine that cannot be excelled in any part of Canada. He has devoted his every energy to the work of properly developing the mine and no detail has escaped his notice. A more systematically planned and more thoroughly executed works it would be difficult to conceive. The mine in three years has made progress to its present magnitude, from very humble beginnings, so that there is every reason for expecting bigger things in the course of

another three years, expectations for which there are no fears from anyone at all acquainted with the mine.

An Opinion.

"The real gold mining district of Ontario is in Hastings County; there is more real engineering going on at the Belmont Mine than anywhere else in this province." So spoke Mr.



1. D. G. Kerr, Supt. Cordova Exploration Co., Belmont Gold Mine.
2. W. A. Hungerford, Supt. Atlas Arsenic Co., Deloro.
3. P. Kirkegaard, Supt. Canadian Goldfields, Deloro.
4. A. W. Carscallen, M.P., Marmora, Original Owner of Belmont Gold Mine.

Courtnay De Kalb, Professor of Mining and Metallurgy in the Kingston School of Mines, who was at the Parliament buildings on Saturday. "We do not say much, but we are doing development work which will keep a mill going for years when crushing is commenced." —*Toronto Globe.*