

Mine Operations Gradually Expanding

The Bethlehem Mines Corporation have been fairly active during the last month with the addition of two new members of their staff, Mr. Gills E. J. Paincloud, Plant Engineer, who has been associated with the Bethlehem Cornwall Corporation in Cornwall, Penn., Mr. Paincloud is a graduate Electrical Engineer, an American citizen who was born in Canada.

The second member of the staff is Mr. Joe Murphy, Master Mechanic, formerly associated with the Lamoque Gold Mines, in Bourlomoque, Quebec for the past 18 years as Master Mechanic.

One small shovel, one large shovel and a tounadozer arrived by flat car last month to supplement the equipment already on hand. More equipment is expected to arrive in the near future to expand their operation accordingly.

Developments At Marmora Mine

Bethlehem Mines Corporation is about ready to start moving rock from the site where an open pit mine will soon be in operation. Some of the equipment has arrived including large air compressers, part of the fleet of trucks which will be used, a bulldozer, drill, etc.

The drill is different to and much more powerful than any ever seen in this part of Ontario before. It is stated it will drill a six and three-quarter inch hole a depth of about 40 feet an hour. It operates without the use of water in the hole and has an attachment which takes care of the dust as the drilling proceeds and eliminates what would otherwise be quite a nuisance.

The one building, which is 200 feet by 40 feet has been completed and the ground levelled for the construction of other buildings, some of which will start in the near future.

Surveying and plans for the erection of a number of buildings west of

Crowe River, on the property purchased by Bethlehem Mines Corporation for residential purposes, are ready for the commencement of work in the spring. By the first of May various projects should be well under way.

There has been quite a number of rumors or published reports as to the place from which the concentrated ore will be shipped to the United States. One of the first was that the Corporation had purchased 40 acres of land at Weller's Bay, south of Trenton. Another claimed that 28 acres had been purchased at Cobourg. Others mentioned Belleville and other places. The latest report was made by Mayor H. J. McFarland, of Picton. He stated the shipping point would be along the high shore just east of Picton. The latter may prove correct but Bethlehem Mines Corporation has not yet issued any official statement as to where the docks will be constructed.

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Bethlehem's Marmora Mine A Major Iron Operation

Pre-production Expenditures to Exceed \$10 Million — Will Build Concentrator and Sintering Plant 25 years open Pit Ore — Three years to Strip.

Last Thursday's issue of The Northern Miner, which is considered the greatest authority on mining in all its branches of any Canadian publication, had an article on Marmora Iron Mine, which appeared under the above heading. The article is reproduced in full.

A sizable new iron mining operation is getting under way at Marmora, which promises to accelerate the expanding ore output of this country as well as to renew mining interest in Southeastern Ontario. It is already bringing a new measure of prosperity to that district.

Culminating an intensive program of diamond drilling that has been quietly pursued since mid-1950, Bethlehem Steel is now moving in sparkling new heavy equipment to launch the next phase of its operation,— that of stripping a 100-ft. thickness of limestone capping to bare the magnetite orebody for open pit mining. Under the strong operating arm of Bethlehem Mines Corp., few new mines in this country have started off in such an auspicious manner. The Northern Miner ventures the guess that there is already close to a million dollars worth of brand new mobile equipment on the property. Other highlights observed on a recent visit:

The pit will be about half a mile long and a quarter of a mile wide. It will be carried to an ultimate depth of 500 ft., providing for shipments of concentrate at the projected rate of 500,000 tons annually for from 25 to 30 years.

The ore is relatively low grade, being a shade under 40% iron. However, it concentrates readily, the ratio being one and a half tons of ore to one ton of concentrate. Concentrating will be done right at the property. In addition, some agglomerating will also be done. This will require a sintering plant as well.

The stripping operation will require the removal of 15 to 20 million tons of waste rock. This will take from 2½ to 3 years, and will be completed before any ore is shipped.

It will be a year-round operation, with ore being stockpiled in the winter months.

The concentrate will be shipped via C.N.R. to Picton, a distance of 65 miles. It will provide substantial new "found" revenue for this government owned line, which passes right through the property.

Close to 1,200 acres have new been acquired by Marmoraton Mining Co. Ltd., wholly-owned subsidiary of the big steel organization, at a cost probably in the neighbourhood of \$500,000.

By the time the first ore rolls to the steel mills, total expenditures on this Ontario project will almost certainly have passed the \$10 million mark, and will probably be closer to \$15 million.

The big stripping job is just getting started. It was preceded by the clearing of about 100 acres of scrub timber. In this connection, it was noted that the land, which lies close to the southern fringe of the great Precambrian shield, appears unsuitable for either farming or timbering. It is rather rugged and rocky. Timber removal was not economic.

Before stripping proper gets under way, a road building program will be required, involving three or four miles of access roads to the pit, dumps and railway siding. Limestone from the pit area is now being blasted and utilized for this purpose.

A new power line is nearing completion, with expectations that power can be turned on shortly. This will allow some of the fine electrical equipment to come into play, including a six cubic yard capacity electric shovel. It required six flat cars to bring in this particular unit, which weighs 215 tons. Some idea of its size is portrayed by the fact that it would take a good sized man, standing in the bucket, to touch both sides with arms outstretched.

There is a 2½-yard diesel shovel already in operation, feeding half a dozen 22-ton capacity Euclid diesel trucks. This fleet is being augmented.

There are two new heavy mobile electric drills which will shortly be in operation, supplementing the more conventional wagon drills already at work. To service this heavy equipment is a new heavy mobile crane.

The whole project is the outgrowth of an aerial magnetometer survey carried out in January 1949, by the Ontario Department of Mines in conjunction with Geological Survey in Canada. Mine officials give full credit to Mines Minister Gemmill.

At the present time, there are about 50 men employed on the project, under General Superintendent H. Olsen who is in charge of the Marmora operation.

This number will rise appreciably as both mining and construction work get under way. When normal production is achieved, the total force will level off to around 150, as the whole operation is based on the fullest utilization of the most modern equipment.

The construction program for the current year will likely be limited to the putting up of permanent shops. Temporary office space has been acquired in Marmora, which is only 1½ miles northwest of the pit.

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Bethlehem Mines Corporation Operations

Expanding Rapidly At Marmora Mine

Heavy Machinery Now In Operation—Much Surface Work Done—Buildings Under Construction

On Tuesday afternoon we had the pleasure of viewing the progress being made at Marmora Mine by Bethlehem Mines Corporation, in company with Mr. Harold Olsen, General Superintendent. Developments to date are surprising and begin to give some idea of the magnitude of the operations which will eventually be carried on.

For several months one important project will be road building. A total of between 3 and 4 miles of roads will be constructed. These roads will be about 48 feet wide to enable the large trucks to pass each other while a grader is at work. The roads will have a foundation of several inches of coarse rock, covered with finer crushed rock. A large modern grader has been set up and is ready to start work.

One of the finest places visited was the site of the buildings for explosives. These are situated probably half a mile from other buildings and the railway track. There are two houses for dynamite, which will hold a car load each, and a smaller one for percussion caps or detonators. The buildings are placed over 100 yards apart. They are constructed with a view to every possible precaution against accidents. Ventilators around the foundation and under the floor provide for air circulation. Then there is 5 inches of sand over the ceiling. The walls are of concrete, sealed up inside and all nails are countersunk and no metal of any kind is exposed, so that there will be no danger of a spark being caused by the explosive coming in contact with metal. The doors are covered with metal so that no place in any of the buildings could be pierced by a bullet from a high powered rifle. As an added precaution the whole area occupied by the buildings will be surrounded by a bank of earth 30 feet high, so that if an explosion did occur in spite of the precautions taken the force of the blast would mushroom into the air.

At the east side of what will be the mine pit the earth has been removed down to the flat rock. The pit will be over half a mile long and a quarter mile wide. Drilling, blasting and the moving of rock will start soon. Two very powerful drills, which will sink a hole over 6 inch in diameter about 40 feet an hour are now ready to start work. Three immense shovels, operated by electricity are now ready to move the rock or earth. These shovels will lift 6 yards at a time and load a 22 ton truck, which when heaped up will hold over 15 yds., in a little less than a minute. A fleet of 20 of the large Euclid trucks will move a lot of material in 24 hours.

Quite a number of ten ton trucks will be engaged in road building and other operations around the mine where they can be operated more economically than the big ones. They also have a number of small trucks for supplies, etc. Road graders, a sprinkling tank and a large air compressor are also included in the equipment now in use.

The quanset building, which was erected in the spring is a busy place. Part of it is used for office space and is occupied by the storekeeper, time keepers and a number of other office men. One end has been fitted up as a washroom, with wash basins, toilets and drinking fountain. The water is clear and cold and comes from a well 65 feet deep. It also contains a large quantity of stores, including hardware and other material required for operations. A building which will be moved close to where the excavation is carried is being erected and will be used by the men in eating their lunches, etc., when the weather is unfavorable. The quanset building is insulated and while the exterior is of metal it is surprising how cool it is inside it.

The foundation is now being constructed for a new building which will be several times the size of the present one. It will be in the shape of a U with the base towards the west and an open court between the sides. The total length of the building will be about 600 feet and the width of about sixty feet. The companies offices will be built just in front of the space between the wings. When the new buildings are completed the present quanset building will be used as a heated garage for the trucks.

The construction of the power line and the transformers has now been completed and there should be lots of power for all purposes. Flood-lights have been erected along the east side of where the removal of the rock will start and work is carried on in three shifts of eight hours each.

Admission to the property is only by a pass secured from the Marmora offices. Four men have been engaged as gate keepers and their appointment shows the consideration of the Company for those who, because of age or physical disability, are unable to do other work. They are Orville Trumble, Stafford Shannon, Bert Spry and F. S. Johnston. A man is on guard at the gate for the 24 hours.

Bethlehem Mines Corporation has awarded a contract to Lorne C. Watson, of Campbellford, for the erection of eight houses and a guest house on the residential property purchased by the Corporation west of Crowe River. Work has been started and will be carried on rapidly as possible. We hope to be able to write more about this new development in a few weeks.

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A Beautiful Residential Area

Bethlehem Mines is not only showing great progress at Marmora Mine in starting the removal of the great body of rock which covers the ore bed and the erection of buildings necessary in the carrying on of its operations, but it is doing an equally outstanding job in the development of a residential site west of Crowe river.

The site is on three levels. The lower level is served by the old road to the dam and the ruined church and is about thirty feet above river level. The guest house, garage and pump house are on this level.

About 50 feet above this lower road is a beautifully wooded, park like terrace on which are being built the eight staff houses. This terrace, not readily visible from the highway and not known even to many residents of Marmora, is unique in its sylvan beauty. Oak, maple, pine and other trees are interspersed with clumps of sumac, juniper and fern to make one of the most attractive sites in southern Ontario.

On the still higher level, where No. 7 Highway emerges from the rock cut, lots for about 125 houses have been plotted. The construction of these latter homes for employees and others has not been decided upon as yet.

The area is attractively laid out in winding streets with Indian names. The lots are large, being 60 feet by 120 feet, or larger, a large park and recreation area centres around a rocky eminence, clothed in juniper and evergreens.

When these homes are built they will be served by a waterworks and sewerage system on the latest modern lines.

Landscaping

Particular attention is being given to retaining the great natural beauty of the site. Every tree or shrub is carefully considered before its removal and great pains have been taken in the placement of the houses to avoid damage to or removal of any natural growth.

The high cliff between the guest house road and the staff houses terrace is being given special treatment. Geologically it is interesting for its caves where, undercut in a previous ice age by the waters of prehistoric Lake Iroquois, now represented by a much smaller and shallower Lake Ontario (Some very interesting fossils were taken from this area a few years ago.) Winding walks, edged with native stone, scale the cliff in three places and a sylvan path, with stone seats and lookouts are under construction.

Along the high cut at the highway an ornamental fence has been put up and in part will be backed up by hedges.

The largest of the houses now under construction is the guest house. It is for the accommodation of guests of the Corporation from Bethlehem or elsewhere and some of the bachelors of the staff.

The building is 89 feet long by 59 feet wide. It is a ranch house type with modifications and a cottage roof to meet Canadian and climatic conditions. The walls are of brick mottled in buff and salmon pink tints and is very attractive.

The house contains three bedrooms with private baths for the use of guests, five bedrooms with staff wash-room for the bachelor staff. There is also a bedroom with private bath and a sitting room for the steward and his wife. There is a large kitchen, which will be fitted with all the most modern labor saving kitchen equipment. Adjoining the kitchen is a large living room with a dining room ell.

The windows are worthy of special note being of aluminum with integral storm sash and screen. There are also large twindow picture windows incorporated in the design are planting boxes, built of cement and bricked in, for flowers and perennial hedge plants.

A large garage is situated just north of the guest house. It is also of brick in the same color as the house and has stalls for four cars. It is equipped with the latest type of doors and heating plugs for winter.

In one end of the garage is the pump room, comprising a deep well

pump drawing water from a 60 foot drilled well 6 inches in diameter. The well water is pumped into a two compartment concrete reservoir, holding 6000 gallons or a two day supply in case of power or mechanical interruption. The water from this reservoir will be passed through a water softener. Provision is also being made for chlorination, but owing to the apparent purity of the water this will probably not be necessary.

From the reservoir, after treatment, the water is pumped to the guest house and the eight staff houses on the higher terrace level. Present installed equipment is sufficient to serve several additional units, but if and when the townsite proper is developed to a fuller extent larger pumping facilities will be required. Provision has been made for this in the design.

On the higher terrace level the eight staff houses are being built. These also are of modified ranch house type of brick veneer construction and will have no basement. Though built to three general designs exterior treatment and location of garage and breezeways will give them a distinctive appearance. Some will have native stone panels for accent.

In general these houses will be heated with the latest type of forced hot air oil furnaces. The guest house and one of the other houses will be heated by oil fired hot water furnaces.

The design and mapping of the townsite, the landscaping and the erection of the buildings is under the supervision of Marmora Engineering Company, with Mr. J. D. Cumming, P. Eng., engineer and C. Roger Young, associate. The contractor for the erection of the buildings is Mr. Lorne Watson, of Campbellford. Mr. W. A. Watson, architect of Belleville, prepared the designs for the houses.

Any development of this kind and magnitude takes time and in years to come the ornamental plantings, hedges, pyramidal evergreens, rock gardens and vistas through the trees should provide a source of great pleasure and pride to the people of Marmora and to the Company who have

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Work Progressing At Marmora Mine of Bethlehem Corp.

Yesterday afternoon the heaviest blast put off so far at the Bethlehem Iron Mine was felt in the village where windows rattled and shook. At the mine approximately 100,000 tons of rock broke loose from the working face of the pit and was hurled about 100 feet where it was piled up in small chunks easy for handling with the huge mine equipment. The wall of the pit had been drilled to a depth of over 40 feet and about 25,000 lbs. of explosive were used in the blast.

Good progress has been made in the development of the mine although it will be many months yet before the iron ore is reached. The rock is being removed in layers of about thirty to forty feet and one has to see the operation in progress to get any idea of just what a job this is.

When the rock is broken loose by blasting, three huge electric shovels load it into a fleet of twenty huge 22-ton Euclid trucks which operate with clock-like regularity between the shovels and the place where the rock is dumped.

It is hardly believable the amount of rock which has been dumped so far but there is an area at least one-quarter mile square which has been filled in and built up on a very gradual slope until now one can stand on the south side of the dump and look down on the tops of good big trees which are gradually being buried up with rock.

A large crusher has been installed and the whole surface of the rock pile has been covered with crushed rock so that the trucks can travel over the pile in any direction just as though it was a road.

At the mine headquarters the foundations are laid and the steel framework up for three large buildings. On the west side facing the approach to the mine from the highway a large office building is being erected and at the north side of this building a warehouse will extend eastward. Running south from the east end of the warehouse is a 280 ft. long building which will be used as a machine shop and repair shop. An oil and grease building is being erected across the road from the other buildings. There will also be a modern washroom and dry for the men.

At the north side of the buildings a large parking lot is being levelled off which is expected to accommodate about one hundred and twenty cars.

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