

Government Circular No. 1361.

G.O. Reference 22744/1.



EXPLORATION OF LAXEY MINES.

On 30th March, 1928, Tynwald voted a sum of £4,000 to enable exploratory work to be carried out at Laxey Mines, for the purpose of ascertaining whether a payable shoot of ore could be found. Appended is a Report, dated 2nd February, 1932, received from Mr. W. Forster Brown, Mineral Adviser to His Majesty's Commissioners of Crown Lands, dealing with the whole subject. The vote of Tynwald was not sufficient to complete the work recommended by Mr. Forster Brown, and it was exceeded by a sum of about £50, to which His Excellency the Lieutenant-Governor made reference at the time.

By Order,

B. E. SARGEANT,

Government Secretary.

Government Office,
Isle of Man,

20th February, 1932.

15, VICTORIA STREET,

WESTMINSTER,

LONDON, S.W.1.

2nd February, 1932.

Laxey Mine Explorations.

I beg to report as follows upon the result of the explorations carried out at the above Mine with the aid of the grant-in-aid voted by the Tynwald for the purpose.

The object of the operations was to ascertain whether a payable shoot of ore could be found at the north end of the Mine beyond the belt of barren ground which had been found to cut off the working from the old Mine going northward.

In explorations carried out previous to Captain Roberts' time, indications had been met with in the 255 fathom level that a mineralised lode existed at the extreme north end of this level, about 5,000 feet north of Dumbell's Shaft, but the difficulty of dealing with the water prevented further exploration at this level.

The Lessees, during the time Captain Roberts was Manager of the Mine, drove forward the adit level a distance of 2,170 feet with a view of reaching the same belt of mineralised lode as had been struck in the 255 fathom level. This exploration, after passing through a fault or slide, struck into mineralised lode, and was carried forward about 50 fathoms in lode estimated by the Management to carry 1 ton of Blende and $\frac{1}{2}$ ton of Lead per fathom.

With a view to attempting to find, if possible, more productive ground farther north, which, if successful, would place mining at Laxey on a more permanent basis and provide employment, a sum of £4,000 was voted by the Tynwald for the purpose.

The adit was reconditioned sufficiently to enable driving to be carried on, and was advanced a distance of 30 fathoms. At a distance of 74 fathoms north of the slide the vein appeared to bend away to the north-west and has been followed for some 44 fathoms from the bend, when it was found to pinch out with no trace of metal. A cross-cut was then driven to the east for 36 feet from the point where the lode apparently turned to the north-west to ascertain if the adit had been following a stringer and not the main lode. At 15 feet along this cross-cut a fissure was met with, with no lode stuff in it, in line with the direction of the main lode farther back. A drivage north was then made upon this fissure, and within a few feet of the cross-cut a small lode was found, about 2 to 3 inches wide, carrying streaks of Blende. The drivage on this lode was driven 72 feet, but no indication of any opening out of the lode was met with.

It was then decided to try and ascertain whether the length of lode, about 50 fathoms in length, north of the slide referred to, which at the adit level carried about $1\frac{1}{2}$ tons of mineral to the fathom, would open out into more profitable ground below, and a winze was sunk to a depth of 36 feet; for some 15 feet of this depth the lode maintained its value of about $1\frac{1}{2}$ tons of mineral per fathom; but at this depth it became pinched owing to a granite bar crossing the lode, and, as sinking to a greater depth under the difficult conditions prevailing at the adit was very expensive, the work was suspended.

The net result of the explorations at this north end of the Mine, at adit level, may be said to be that a mineralised lode has been proved for a distance of about 100 fathoms beyond the main slide north of the belt of barren ground which cut off the workings of the old Mine in a northerly direction, but the mineral content at its best would be about $1\frac{1}{2}$ tons of Lead and Blende per fathom, and this is not a sufficiently high yield to be economically worked.

It is possible that explorations in depth upon this belt of mineralised lode would succeed in finding that the lode opened out at deeper levels into payable ground, as this has been the history of other shutes of ore met with in the old Mine. To carry out adequate explorations, however, to prove this from the adit level would be difficult and expensive, and it would probably be necessary to sink a new shaft from the surface, necessitating a considerable outlay of capital upon a very speculative proposition.

At this stage of the operations my attention was called to a system put forward by a Mr. Franklin, who claimed to be able to discover veins of Lead and other metals below the surface by means of instruments recording the electrical conductivity of the underlying strata.

Enquiries were made, and I visited the Derbyshire Lead district, where this process had been adopted, and found that there, in some instances, the system had apparently been successful in discovering Lead deposits below the surface.

Following this up, Messrs. Franklin's method was employed to ascertain if deposits of Iron Ore in Cumberland could be located by this system, and a considerable measure of success attended these surveys at shallow depths down to 400 feet or so.

Mr. Franklin and his partner, Mr. Chapman, were instructed to make a survey of the Laxey area. Their report gave no certain indications at the north end of the Mine overlying the operations carried out at adit level; but, at the south end of the Mine, southwards of the point at which the Laxey lode was lost, and had never been traced, they traced by their method a line which appeared to indicate the possibility of an extension of the Laxey lode in this direction.

As a basis to work on, Messrs. Franklin took readings with their instruments over an area at the old Mine where payable ore was known to exist. The readings obtained by them, upon the line laid down upon the plan attached to their report southwards of Laxey, were from 2 to $2\frac{1}{2}$ times higher than their basereadings. It was, therefore, hoped that their method indicated a profitable extension of the Laxey lode in a southerly direction, and it was decided to bore to ascertain whether this was so or not.

The first borehole put down, was put down at an angle of 45 degrees from a point 110 feet east of the line laid down in Messrs. Franklin's report, so as to cross this line at a depth of 110 feet below the surface. This borehole proved strata dipping at 45 degrees to the west and here and there indications of vein and quartz stuff, but no metal was met with.

A second borehole was then put down, also at an angle of 45 degrees, at a point some 80 feet west of Mr. Franklin's line, and was carried to a depth of 110 ft. 4 ins. This hole was found to progress in the same strata with no indications of veins.

In view of the fact that Messrs. Franklin had stated in their report that the metal might lie at 50 fathoms from the surface, a vertical borehole was then put down on Messrs. Franklin's line to a depth of 490 feet from the surface. As the strata was dipping from west to east at 45 degrees, and the Laxey lode as it exists at the old Mine dips at about 70 degrees from west to east, it was expected that, if the lode existed within a distance of 120 feet west of Messrs. Franklin's line, this borehole would cut the lode within a depth of 500 feet from the surface. Although some indications of vein stuff were met with, no metal of any description was encountered. From a depth of 300 feet down to 500 feet the rock is siliceous in nature and is not unlikely ground in which to meet a vein, but to the depth bored no vein carrying metal was met with.

I estimate that the ground for 490 feet west and 110 feet east of Messrs. Franklin's line has been proved by these borings as not containing a mineralised lode to a depth of 500 feet from the surface.

I have been in communication with Messrs. Franklin. They are unable to give any definite reason why their system has not succeeded in disclosing a vein carrying metal on the line laid down on their plan. They state, however, that they are endeavouring to perfect their instruments and make them more reliable, but the system although apparently giving results in some cases is unreliable in others, unless, of course, the metal which they anticipate was recorded by their readings lies at a greater depth from the surface than the borings have reached.

W. FORSTER BROWN.