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A HISTORICAL REVIEW OF ELECTRICAL PROSPECTING METHODS*

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ABSTRACT

The development of electrical prospecting methods from the discoveries of R. W. Fox in 1830 to recent inventions is traced briefly.

The everyday miracles one has come to expect of electricity are so familiar that many people are inclined to believe that anything can be done if we are only clever enough to find the proper method of applying electricity. It is small wonder then that ever and again someone has attempted to apply electricity to the problem of finding valuable objects below the earth's surface. The most hasty study of the literature shows that the number of investigators in this field is very large. Ambronn, who in his "Elements of Geophysics" (1),¹ gives a fairly complete bibliography of geophysical work prior to 1926, lists approximately four hundred articles on electrical prospecting. In recent years articles on electrical prospecting have appeared at the rate of about 100 per year.

I. NATURAL POTENTIAL MEASUREMENTS

The foundations of electrical prospecting were laid in 1830 when the Englishman, R. W. Fox (2), discovered that electrical currents and potentials were associated with certain ore deposits in Cornwall. He made measurements of these potentials and also of the resistivity of certain of the minerals and surrounding rocks. As a result of Fox' work a number of others made similar measurements and proposed the use of these measurements for prospecting. However, the apparatus used by these early electrical prospectors was too crude for practical work.

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¹ The numbers in parentheses refer to the like-numbered article in the bibliography at the end of the paper.