A PROPOSED AEROMAGNETIC-AERORADIOACTIVITY SURVEY FOR THE STATE OF MISSISSIPPI

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ABSTRACT

In petroliferous areas, aeromagnetic studies are conducted to help delineate basins and to provide estimates of total sedimentary thickness. In Mississippi, volcanic rocks are widespread in the subsurface and in some measure control sedimentary structures. An aeromagnetic survey of the State should help provide information on the distribution and geometry of the buried volcanic rocks.

Aeroradiometric surveys could be used to find placer concentrations of titanium and other heavy minerals because of the small amounts of monazite and zircon these deposits commonly contain. Such surveys have resulted in the discovery of important deposits in Georgia and Florida. In the Coastal Plain, Mississippi has Pleistocene beach ridges similar to those mined in Florida and Georgia. In the inner Coastal Plain, Mississippi has much older (Cretaceous) deposits correlative with the McNairy Sand Member of the Ripley Formation, which contains economic concentrations of ilmenite farther north.

A combined aeromagnetic-aeroradioactivity survey for the entire State of Mississippi flown at 500 feet above ground and at a flight spacing of 1 mile would help in the search for the mineral resources mentioned above. The cost of such a survey would be about 1 cent per acre, a very good investment, indeed, considering its potential benefits.

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