

TEM 673 C.2

TEM 673

AIRBORNE RADIOACTIVITY SURVEY
 OF PARTS OF THE
 ATLANTIC OCEAN BEACH,
 NORTH & SOUTH CAROLINA, by
 Meuschke, Moxham and Bortner

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AEC-438/4

Dr. Phillip L. Merritt, Assistant Director
Division of Raw Materials
U. S. Atomic Energy Commission
P. O. Box 30, Ansonia Station
New York 23, New York

Dear Phil:

Transmitted herewith are two copies of TEM-673, "Airborne radioactivity survey of parts of the Atlantic Ocean Beach, North and South Carolina," by J. L. Meuschke, R. M. Moxham, and T. E. Bortner, November 1953.

As discussed by V. E. McKelvey and you on August 6, 1952, we plan to open file this report and distribute copies to the offices listed in the Commission press release of July 13, 1952, announcing the public release of data on airborne radioactivity surveys. Additional copies of the report will be available at the offices of the Division of Mineral Resources, North Carolina Department of Conservation and Development and the North Carolina State Museum in Raleigh and the Office of the State Geologist, Columbia. We are asking Mr. Hosted to approve this plan.

Sincerely yours,

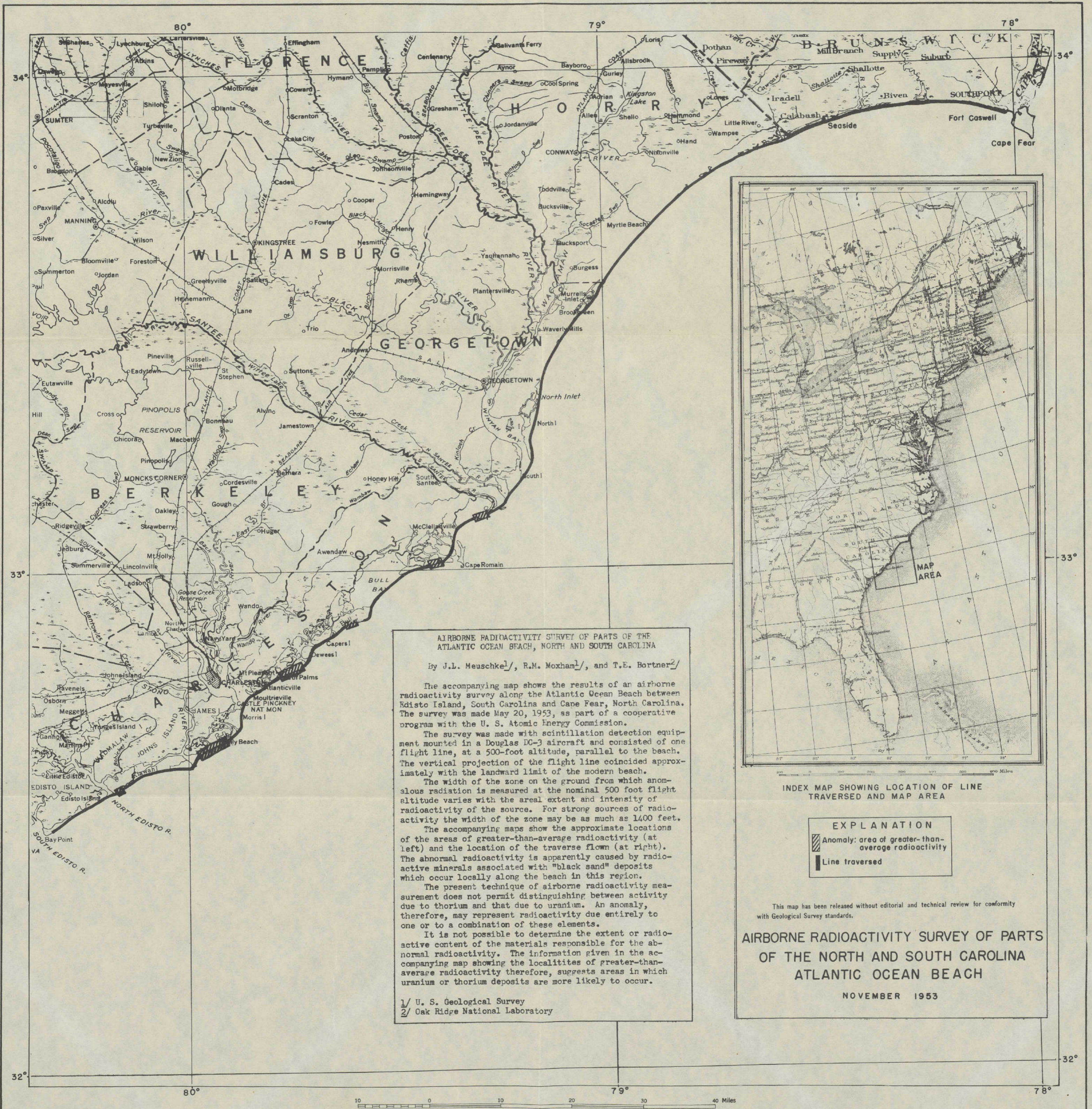
Dwight M. Lammont
for W. H. Bradley
Chief Geologist

metadc1393481

USGS - TEM-673

GEOLOGY AND MINERALOGY

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AIRBORNE RADIOACTIVITY SURVEY OF PARTS OF THE
ATLANTIC OCEAN BEACH, NORTH AND SOUTH CAROLINA

By J.L. Meuschke^{1/}, R.M. Moxham^{1/}, and T.E. Bortner^{2/}

The accompanying map shows the results of an airborne radioactivity survey along the Atlantic Ocean Beach between Edisto Island, South Carolina and Cape Fear, North Carolina. The survey was made May 20, 1953, as part of a cooperative program with the U. S. Atomic Energy Commission.

The survey was made with scintillation detection equipment mounted in a Douglas DC-3 aircraft and consisted of one flight line, at a 500-foot altitude, parallel to the beach. The vertical projection of the flight line coincided approximately with the landward limit of the modern beach.

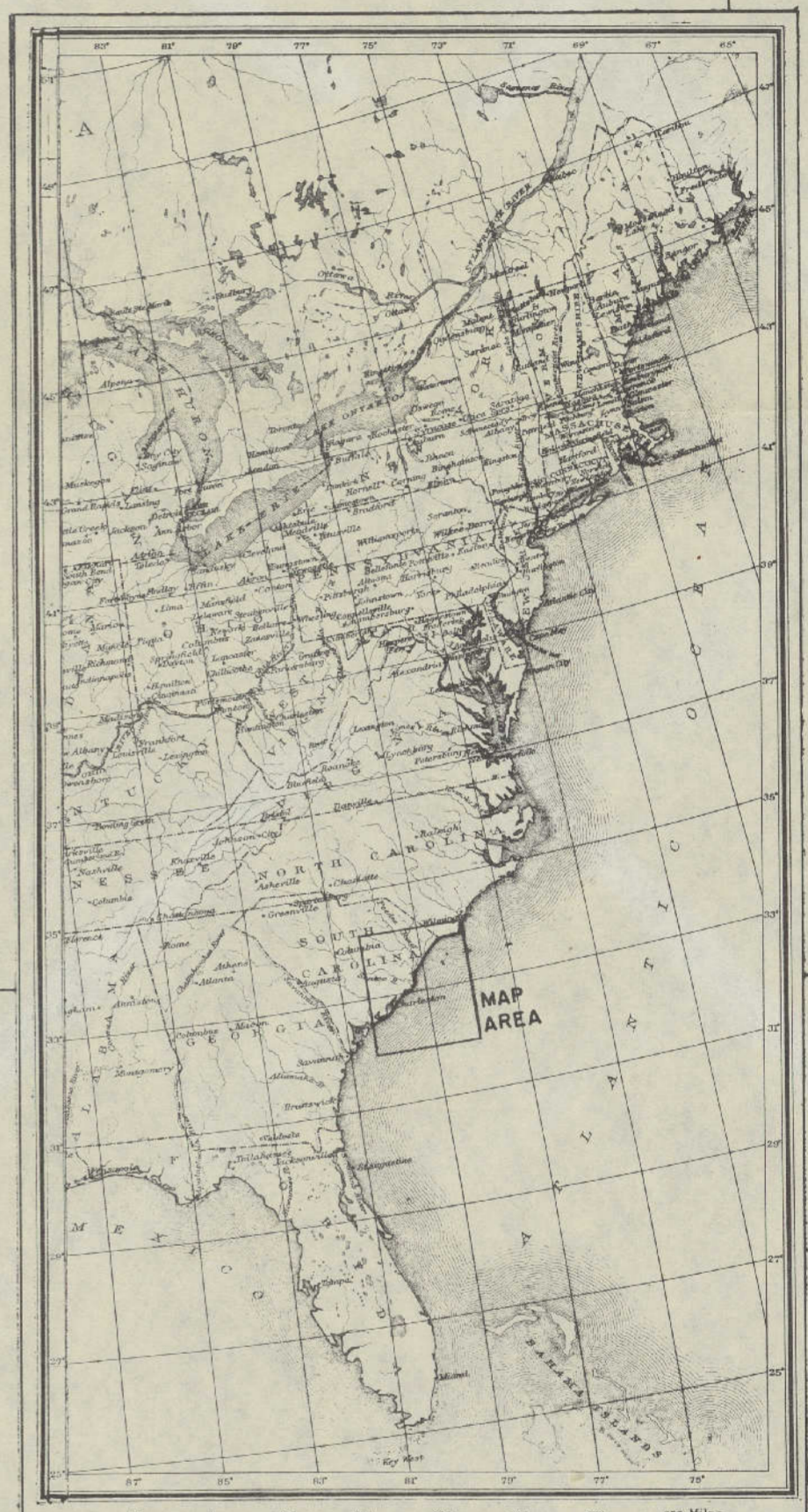
The width of the zone on the ground from which anomalous radiation is measured at the nominal 500 foot flight altitude varies with the areal extent and intensity of radioactivity of the source. For strong sources of radioactivity the width of the zone may be as much as 1400 feet.

The accompanying maps show the approximate locations of the areas of greater-than-average radioactivity (at left) and the location of the traverse flown (at right). The abnormal radioactivity is apparently caused by radioactive minerals associated with "black sand" deposits which occur locally along the beach in this region.

The present technique of airborne radioactivity measurement does not permit distinguishing between activity due to thorium and that due to uranium. An anomaly, therefore, may represent radioactivity due entirely to one or to a combination of these elements.

It is not possible to determine the extent or radioactive content of the materials responsible for the abnormal radioactivity. The information given in the accompanying map showing the localities of greater-than-average radioactivity therefore, suggests areas in which uranium or thorium deposits are more likely to occur.

^{1/} U. S. Geological Survey
^{2/} Oak Ridge National Laboratory



INDEX MAP SHOWING LOCATION OF LINE TRAVERSED AND MAP AREA

EXPLANATION

Anomaly: area of greater-than-average radioactivity

Line traversed

This map has been released without editorial and technical review for conformity with Geological Survey standards.

AIRBORNE RADIOACTIVITY SURVEY OF PARTS OF THE NORTH AND SOUTH CAROLINA ATLANTIC OCEAN BEACH

NOVEMBER 1953



