

AIRBORNE RADIOACTIVITY SURVEY OF THE GARDNER AREA
 DE SOTO, HARDEE, MANATEE, AND SARASOTA COUNTIES, FLORIDA
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The accompanying maps show the results of an airborne radioactivity survey of 570 square miles of De Soto, Hardee, Manatee, and Sarasota Counties, Fla. The area was surveyed by the U. S. Geological Survey, March 26 to 31, 1954, as part of a cooperative program with the U. S. Atomic Energy Commission.

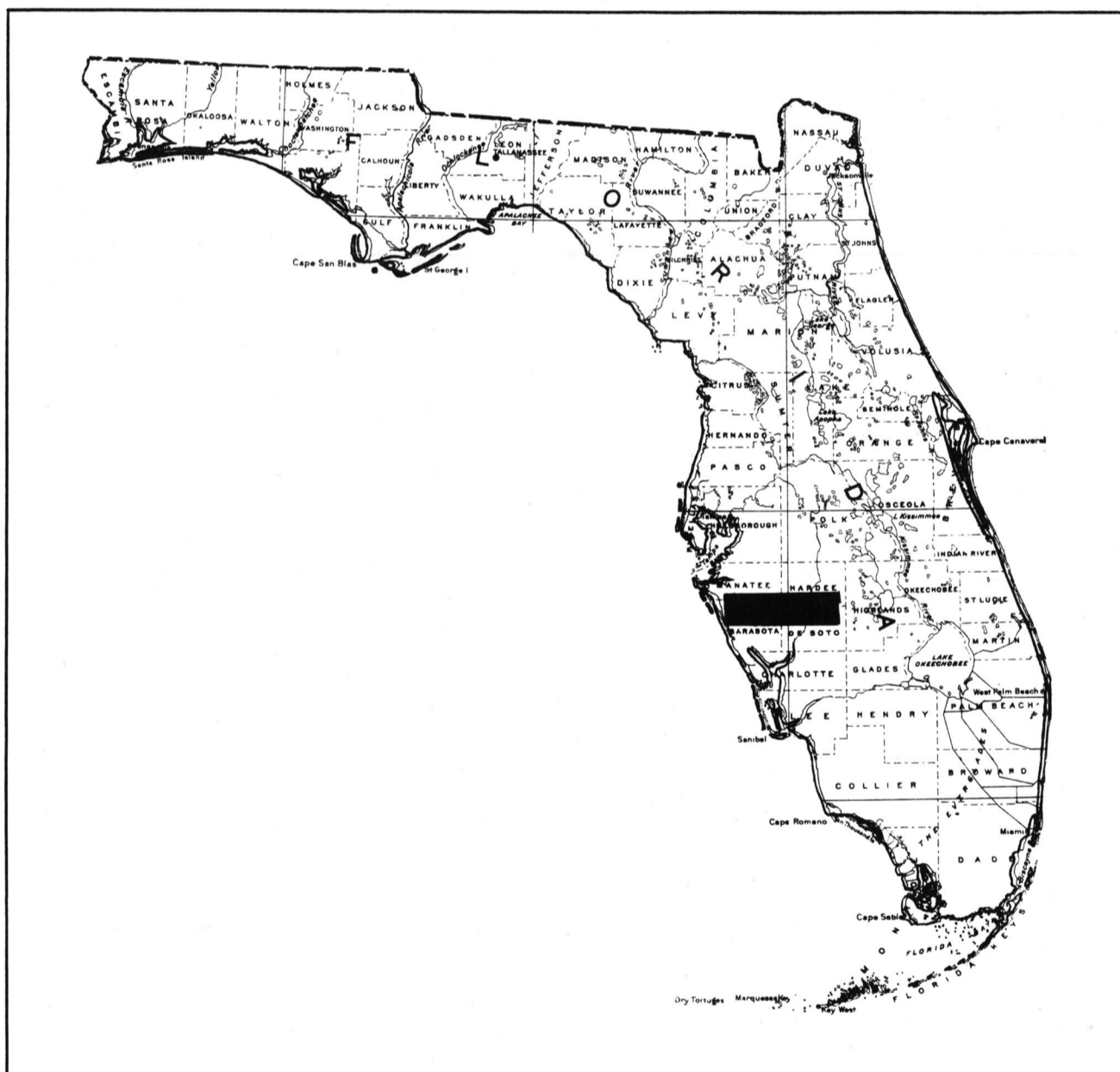
The survey was made with scintillation detection equipment. Parallel east-west flight lines spaced at quarter-mile intervals were flown approximately 500 feet above the ground at an average air speed of 150 miles per hour. Aerial photographs were used for pilot guidance, and the flight path of the aircraft was recorded by a geostabilized continuous strip-film camera. The distance of aircraft from the ground was measured with a continuously recording radio altimeter.

The width of the zone on the ground from which the anomalous radiation is measured at the nominal 500-foot flight altitude varies with the areal extent and the intensity of radioactivity of the source. For strong sources of radioactivity the width of the zone may be as much as 1,400 feet. Thus, quarter-mile spacing of the flight lines is adequate to detect anomalies from strong sources of radioactivity, but small areas of considerable radioactivity midway between the flight lines may not be noted.

The approximate locations of the radioactivity anomalies are shown on the accompanying map. The plotted position of these anomalies may be in error by as much as a quarter of a mile owing to errors in available base maps or to areas on the base maps as large as several square miles in which it is impossible to find and plot recognizable landmarks.

The present technique of airborne radioactivity measurement does not permit distinguishing between activity due to thorium and that due to uranium. An anomaly may therefore represent radioactivity due entirely to one or to a combination of these elements. The radioactivity anomalies shown on the accompanying map cannot be interpreted in terms of either the radioactive content or the extent of the source materials.

These radioactivity anomalies indicate localities of more-than-average radioactivity and therefore suggest areas in which uranium or thorium deposits are more likely to occur.



INDEX MAP OF FLORIDA SHOWING LOCATION OF AREA TRAVERSED

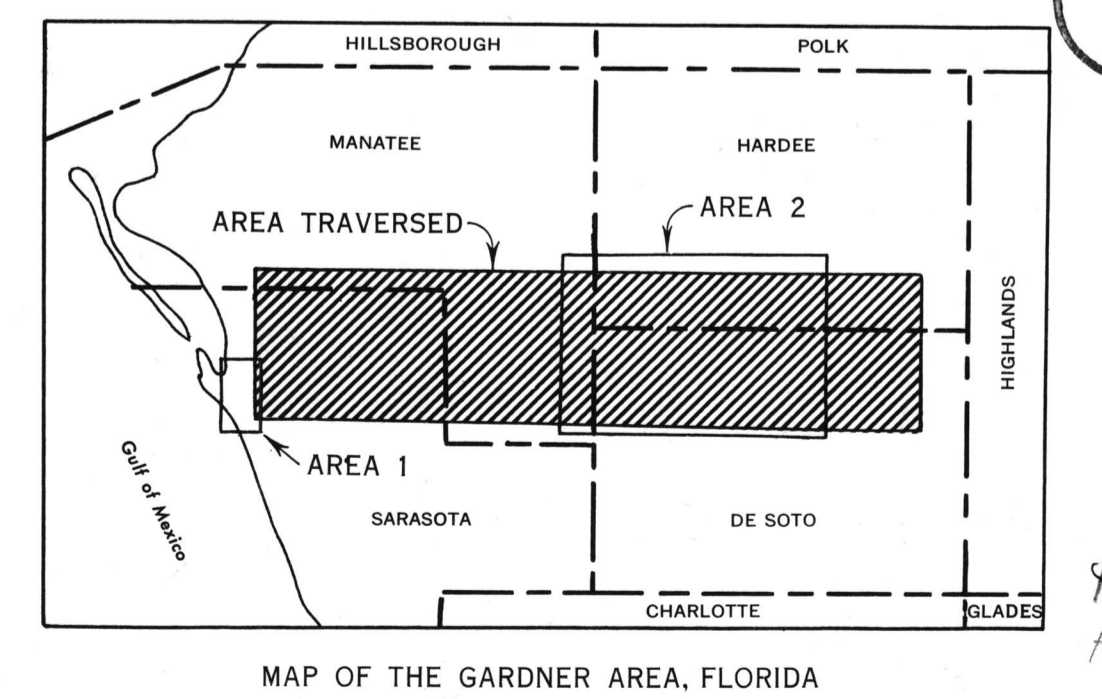
Base map from Corps of Engineers quadrangle sheets

Base map from Florida State Highway and Transportation Maps

EXPLANATION

- LOCATION OF MAXIMUM INTENSITY
- MAXIMUM INTENSITY: counts per second
- AVERAGE BACKGROUND INTENSITY: includes cosmic component
- ANOMALY: greater-than-average radioactivity
- BOUNDARY OF AREA TRAVERSED

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MAP OF THE GARDNER AREA, FLORIDA

U. S. GEOLOGICAL SURVEY
 WASHINGTON
 FEB 4 1955
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 Sheet
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