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UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

INVESTIGATIONS OF DOMESTIC RADIOACTIVE RAW MATERIALS,  
BERYLLIUM, AND OTHER TRACE ELEMENTS

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MONTHLY REPORT - MARCH 1947

TRACE ELEMENT UNIT

PREPARED FOR THE U.S. ATOMIC ENERGY COMMISSION

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April 22, 1947

Washington, D.C.

APR 22 1947

MEMORANDUM to the Atomic Energy Commission:

Attention: Col. John R. Jannarone.

Monthly Report: Trace Elements Unit - 1

Project: Investigation of domestic radioactive raw materials.

Month of: March 1947. Classification cancelled (or changed to Declass.  
by authority of Jesse Johnson, etc. 9/13/5  
by J. E. ... 10/21/59  
Signature of person making change, and date there

Investigation of domestic radioactive raw materials included field, office, and laboratory activities. Domestic field investigations were conducted in Utah and Florida. Office activities consisted of preparation of reports based on the results of field investigations in Kentucky, Indiana, Illinois, Missouri, Tennessee, and Arkansas, and assembling of data on Florida phosphates. Laboratory activities included continuing research on chemical, radioactive, and spectrographic techniques and routine analyses. Work in cooperation with the Atomic Energy Commission consisted of preparation of a report on occurrence of gallium, and of detailed program for investigations of domestic resources of radioactive raw materials.

#### DOMESTIC INVESTIGATIONS

##### Field investigations

Utah.— Preliminary sampling to determine grade and tonnage of a radioactive asphaltic sandstone in Emery County was completed.

Florida.— Inspection of the main phosphate field, and introductory visits to the main operating companies were completed as a preliminary to more comprehensive investigation of southeastern phosphates.

##### Office activities

Tennessee and Kentucky.— Preparation of a preliminary report on the relation of radioactivity and stratigraphy in the Chattanooga shale was continued.

Kentucky, Indiana, Illinois, Missouri, and Arkansas.— A report is being prepared on reconnaissance investigation of coal, shale associated with coals, hydrothermally altered igneous rock, and miscellaneous types of rocks in these states. Results, reported in previous

summaries, show that the Chattanooga shale or its equivalents generally exhibit radioactivity similar to that in Tennessee, but in Arkansas the radioactivity is less. At Magnet Cove, Arkansas an insignificant tonnage of hydrothermally altered igneous rock is appreciably radioactive. Other materials examined are not appreciably radioactive.

Florida.— Study of existing data on phosphates in southeastern United States was continued as part of a plan for an extended program of investigation of the uranium-bearing phosphates.

Utah.— A preliminary report on the investigation of radioactive asphaltic sandstone in Emery County is being prepared.

Alaska.— Reports on reconnaissance investigations of eight areas in Alaska are in preparation.

#### Laboratory investigations

Chemical.— Research was continued on improving methods of analysis for small quantities of thorium in order to reduce the time required for an analysis.

Radioactive.— Investigations of radioactivity were largely confined to routine measurements of samples.

Spectrographic.— Work was continued on a report summarizing spectrographic data on uranium, thorium and other rare elements of interest.

General.— Steps were taken toward establishing a sub-laboratory in Denver to facilitate chemical and physical research and analysis connected with investigations of resources in western United States.

#### Cooperative work

Plans.— At the request of the Commission, a report is being prepared on "Present Investigations of Radioactive Raw Materials by the Geological Survey and a Recommended Program for Future Work."

A memorandum on recommendations for work in the carnotite region of Colorado and Utah was also prepared.

Reports.— At the request of the Commission a report on the occurrence of gallium has been prepared and will be transmitted shortly.

Thomas B. Dolan

Assistant Director.

4/16/47

APR 22 1947

MEMORANDUM to the Atomic Energy Commission:

Attention: Col. John R. Jannarone.

Monthly Report: Trace Elements Unit

Project: Investigations related to foreign resources of radioactive raw materials.

Month of: March 1947.

SUMMARY

Investigations related to foreign resources of radioactive raw materials consisted wholly of office activities. These included compilation of bibliographic data and preparation of a memorandum report on Korean monazite.

OFFICE ACTIVITIES

Bibliographic Unit.— The bibliographic unit continued examination of foreign publications for data on radioactive materials. January, February and March revisions of "Preliminary Statistical Report on the number of U and Th occurrences or minerals Present in all the Geographical Areas of the World" and revised or additional sheets for insertion in the "Quarterly Report on the Examination of Periodicals" were prepared for transmittal. Reports on France, Japan, Malaya, Russia, West Indies, and host rocks of carnotite type deposits, and a supplemental report on Korea are in process.

Other.— A memorandum summary report on reserves of monazite in southern Korea was prepared in Washington.

No incidental intelligence was received on foreign resources or occurrences.

Classification cancelled (or changed to Declass)  
by authority of Jesse Johnson 9/13/59  
by J. C. ... 10/20/59  
(Signature of person making change, and date thereof)

Thomas B. ...

Assistant Director.

4/16/47