U.S. Geological Survey
Trace Elements and Related Reports through 1954

By Harriet B. Smith and Virginia K. Blatcher

Trace Elements Investigations Report 500

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
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*This report concerns work done on behalf of the Divisions of Raw Materials and Research of the U. S. Atomic Energy Commission.
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INTRODUCTION

This report supersedes TEI-400, "U. S. Geological Survey Trace Elements and related reports through 1953."

Part I is a numerical list of U. S. Geological Survey Trace Elements Investigations and Memorandum reports 1/. This part lists not only reports (followed by a date) that have been transmitted to the U. S. Atomic Energy Commission, but also reports in preparation (followed by an asterisk) for which tentative titles were available on December 31, 1954. If a report, or portion of a report, has been published, the fact is indicated by the abbreviation of the medium of publication. (See also Part II.)

Part II is a reference guide to Trace Elements and related reports that are available to the public (this part supersedes Part I of Bulletin 1019-B). These reports are grouped according to the type of publication or release. If a report, or portion of the report, has been published in more than one form, appropriate cross-references are given to indicate the other forms of publication. Abstracts published in Nuclear Science Abstracts are not included in Part II; however, if the abstract of a Trace Elements report has been published in NSA, that fact is indicated in Part I. Publications in process on December 31, 1954, are designated by an asterisk.

Part III is a finding list of states, areas, and subjects and supersedes Part II of Bulletin 1019-B. It is based on information derived mostly from the titles of reports and, where titles are of a general nature, from a cursory review of the reports. This list is not a complete index of the information given in Trace Elements and related reports, but is designed to find subjects of major interest. Because of the numerous entries for Colorado and Utah, information has been listed by counties and, where possible, by subject under these states. Other states have county listings only if a county is included in the title of a report; otherwise, areas may be listed separately under the state. Major subjects are listed separately in the index and also, where appropriate, under states. Analytical methods and subjects related to analytical research are listed under Analytical Methods and Research, but not separately throughout the index. Most mineralogic studies are included under the heading Mineralogy, but are not necessarily listed according to location.

Part IV is an author index. The words "with" and "and" are used to indicate seniority of authorship. For example, a listing of Smith and Brown indicates that Smith is the senior author. A listing of Smith with Brown indicates that Brown is the senior author.

In both parts III and IV all Trace Elements reports are listed, as well as other related reports that have not been issued as Trace Elements reports.

The following abbreviations have been used: TEI, Trace Elements Investigations report; TEM, Trace Elements Memorandum report; OF, open file; TIS, Technical Information Service release; C, Circular; B, Bulletin; P, Professional Paper; MC, Maps and Charts; J, Journal; and NSA, Nuclear Science Abstracts.
U. S. GEOLOGICAL SURVEY TRACE ELEMENTS
AND RELATED REPORTS THROUGH 1954

by

Harriet B. Smith and Virginia K. Blatcher

PART I. NUMERICAL LIST OF TRACE ELEMENTS REPORTS

(* Indicates report is in preparation. Title subject to change)


1. Trace Elements Investigations Reports


4. Harder, J. O. and Wyant, D. G., Preliminary report on a trace elements reconnaissance in western states: (Official use only). October 1944.


22. Nelson, J. M. and Brill, K. G., Jr., Radioactivity of the Chattanooga shale east of the Mississippi River and south of the Ohio River, an interim report: (Secret; Fig. 1, Unclassified). August 1947.

23. Grimaldi, F. S., Elimination of interference by nickel in the determination of uranium by means of zinc amalgam reductors: (Unclassified). March 1946. (TIS; B-1006)


27. Killeen, P. L. and Ordway, R. J., Trace elements investigations at Ear Mountain, Seward Peninsula, Alaska: (Unclassified). May 1946. (B-1024-*)


31A. Foster, M. D., Stevens, R. E., Grimaldi, F. S., Schlecht, W. G., and Fleischer, Michael, Methods for the complete decomposition of rock and ore samples to be analyzed for very small amounts of uranium and thorium: (Confidential). 1946. (TIS; B-1006).

31B. Foster, M. D. and Stevens, R. E., The determination of very small amounts of uranium in naturally occurring materials: (Confidential). 1946. (TIS; B-1006).

31C. Grimaldi, F. S., The determination of very small amounts of uranium in rocks and minerals: (Confidential). 1946. (TIS; B-1006).

31D. Fahey, J. J. and Foster, M. D., The determination of small amounts of thorium in rocks and minerals: (Confidential). 1946. (TIS; B-1006).

31E. Grimaldi, F. S. and Fairchild, J. G., The determination of very small amounts of thorium in naturally occurring materials: (Confidential) 1946. (TIS; B-1006).

10. Schlecht, W. G., Control chart method applied to radioactive counting: (Confidential). 1946.


14. Fleischer, Michael and Cameron, E. N., Geochemistry of beryllium: (Unclassified). 1946.


41. Gault, H. R., Trace elements reconnaissance in the Candle Creek area, Fairhaven district, Seward Peninsula, Alaska: (Official use only). December 1949. (C-250).
42. Killeen, P. L. and White, M. G., Trace elements investigations in the Grant Creek area, Yukon region, Alaska: (Unclassified). October 1949. (C-331).

42. Killeen, P. L. and White, M. G., Trace elements reconnaissance on the South Fork of Quartz Creek, northeastern Seward Peninsula, Alaska: (Unclassified). May 1950. (C-250).


45. White, M. G. and Killeen, P. L., Radioactivity and mineralogy of concentrates from the placers of Julian, Moore and Candle Creeks, and the Cripple Creek Mountains, lower Yukon-Kuskokwim Highlands region, Alaska: (Unclassified). February 1950. (C-255).


51. Wyant, D. G., Uranium deposits at Shinarump Mesa and some adjacent areas in the Temple Mountain district, Emery County, Utah: (Pt. 1, Unclassified; Pt. 2, Official use only). January 1953.


55. White, M. G., Reconnaissance for radioactive deposits along the upper Porcupine River, northeastern Alaska: (Unclassified). June 1951. (C-185).


57A. White, M. G., Radioactivity and mineralogy of placer concentrates from the Fortymile district, Alaska: (Unclassified). August 1950. (C-335).


57C. White, M. G., Radioactivity in the "Okpilak" gneissic granite, Mount Michelson area, northeastern Alaska: (Unclassified). January 1951. (C-195).


63. Robeck, R. C. and Brown, Andrew, Black shale investigations, Block 3, Tennessee: (Confidential). March 1950.

64. Robeck, R. C. and Conant, L. C., Reconnaissance search in parts of Kentucky, Tennessee, Indiana, Virginia, and Ohio for areas where uraniferous black shale may be mined by stripping: (Confidential). May 1951.


76A. White, M. G., Examination for radioactivity in a copper-lode prospect on Ruby Creek, Kobuk River Valley, Alaska: (Unclassified). August 1950.

78. Staff, Characteristics of radioactive carbonaceous and bituminous shales: (Confidential). January 1950.


81A. Thurston, R. H. and Chace, F. M., Tin, copper, and uranium at Majuba Hill, Nevada: (Unclassified). February 1950.


83. Stead, F. W., Progress on detection of radioactivity by airborne equipment: (Official use only). September 1949.

84. Bell, K. G. and Rogers, A. S., Experimental gamma-ray logging of drill holes in the Calamity area, Mesa County, Colorado: (Unclassified). February 1950.


92. Stieff, L. R., Program of study for the carnotite ores of the Colorado Plateau: (Unclassified). March 1949.
93. Brown, Andrew, Experimental adit in the Chattanooga shale: (Confidential March 1949).


98. Staff, Tonnage and grade of slime ponds and washer debris areas, Florida phosphate field: (Secret). September 1949.


101. Stewart, R. H., Preliminary results of prospecting of the "leached" zone over phosphate deposits in NW 1/4 of Sec. 9, T. 31 S., R. 25 E., Polk County, Florida: (Official use only). December 1949.


103. Frondel, J. W. and Fleischer, Michael, A glossary of uranium- and thorium-bearing minerals: (Unclassified). January 1950. (C-194; B-1009-#).


111. McKelvey, V. E. and Swanson, R. W., Status of investigations of uranium in the Phosphoria formation, a preliminary report to the AEC: (Official use only). December 1949.


113. Trace, R. D., Carnotite resources in the Radium group area, San Miguel County, Colorado: (Official use only). April 1950.


117. Stager, H. K., Carnotite resources of the Maverick group area, Mesa County, Colorado: (Official use only). June 1950.


120. Fletcher, M. H. and May, Irving, An improved fluorimeter for the determination of uranium in fluoride melts: (Unclassified). June 1950. (OF; TIS; B-1006; NSA).


125. Sims, P. K., Osterwald, F. W., and Tooker, E. W., Uranium deposits in the Eureka Gulch area, Central City district, Gilpin County, Colorado: (Pt. 1, Unclassified; Pt. 2, Official use only). April 1954. (Figs. 1, 2, 3, OF).


129. Stern, T. W., A catalog of study material of radioactive minerals: (Unclassified). October 1950. (OF; TIS; NSA).

130. Fletcher, M. H., A study of critical factors in the "direct" fluorimetric determination of uranium: (Unclassified). October 1950. (TIS; B-1006; NSA).

130, addendum Fletcher, M. H., Addendum to a study of critical factors in the "direct" fluorimetric determination of uranium: (Unclassified). April 1952. (TIS; B-1006).


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135. May, Irving and Fletcher, M. H., A battery-powered fluorimeter for the determination of uranium: (Unclassified). December 1950. (B-1006; NSA).


138. Staatz, M. H. and Trites, A. F., Jr., Geology of the Quartz Creek pegmatite district, Gunnison County, Colorado: (Pt. 1, Unclassified; Pt. 2, Official use only). April 1952. (OF; P-265#)

139. Thurston, W. R., Pegmatites of the Crystal Mountain district, Larimer County, Colorado: (Pt. 1, Unclassified; Pt. 2, Official use only). April 1952. (OF; B-1011*).


142. Thompson, M. E., Distribution of uranium in rich phosphate beds of the Phosphoria formation: (Unclassified). February 1951. (TIS; B-988-D; NSA).


144. Phair, George and Onoda, Kiyoko, Hydrothermal uranotherite in fluorite breccias from the Blue Jay mine, Jamestown, Boulder County, Colorado: (Unclassified). March 1951. (OF; TIS; J-133; NSA).

145. Withington, C. F., Carnotite resources of the Upper group area, San Miguel County, Colorado: (Official use only). July 1951.
146. Stager, H. K., Carnotite resources of the Calamity group area, Mesa County, Colorado: (Official use only). June 1951.

147. Bryner, Leonid, Carnotite resources of Club Mesa, Montrose County, Colorado: (Confidential). November 1952.

148. Rabbitt, J. C., Summary of the research work of the Trace Elements Section Geochemistry and Petrology Branch, for the period April 1, 1948--December 31, 1950: (Confidential). January 1951. (OF; TIS; NSA).


151. Rabbitt, J. C., Summary of the research work of the Trace Elements Section Geochemistry and Petrology Branch, for the period January 1--March 31, 1951: (Unclassified). May 1951. (OF; TIS; NSA).


153A. Guttag, N. S. and Grimaldi, F. S., Fluorimetric determination of uranium in shales, lignites, and monazites after alkali carbonate separation: (Unclassified). October 1951. (TIS; B-1006; NSA).

154. Finch, W. I., Carnotite resources of part of Blue Mesa, Mesa County, Colorado: (Official use only). February 1952.

155. Lang, A. J., Jr., and Redden, J. A., Geology and pegmatites of part of the Fourmile area, Custer County, South Dakota: (Pt. 1, Unclassified; Pt. 2, Official use only). March 1952. (C-245).

156. Granger, H. C., Bauer, H. L., Jr., Lovering, T. G., and Gillerman, Elliot, Uranium deposits in Grant County, New Mexico: (Pt. 1, Unclassified; Pt. 2, Official use only). September 1952.


159. Coats, R. R., Relationship of uranium and other trace elements to post-Cretaceous vulcanism, a progress report: *


161. Phoenix, D. A., Present and past ground-water conditions in the Morrison formation in southwestern Colorado and southeastern Utah: (Official use only). October 1952.

162. Trace, R. D., Uranium and vanadium resources of the Slick Rock district, San Miguel County, Colorado: (Confidential). May 1952.

163. Brasher, G. K., Carnotite resources of Outlaw Mesa, Mesa County, Colorado: (Confidential). November 1952.


165. Stewart, J. H., Carnotite resources of the Moon Mesa and Horse Mesa areas, Mesa and Montrose Counties, Colorado: (Official use only). March 1953.

166. Holser, W. T., Beryllium minerals in the Victorio Mountains, Luna County, New Mexico: (Unclassified). January 1952. (J-78).

167. Rabbitt, J. C., Summary of the research work of the Trace Elements Section, Geochemistry and Petrology Branch, for the period January 1--June 30, 1951: (Unclassified). September 1951.


171. Thurston, R. H. and Trites, A. F., Jr., The uranium, tin, and copper deposits at Majuba Hill, Pershing County, Nevada: (Pt. 1, Unclassified; Pt. 2, Official use only). December 1952. (B-1009-*)


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175. Drake, A. A., Geology of the Wood and East Calhoun mines, Central City district, Gilpin County, Colorado: *


177. Armstrong, F. C., Pitchblende deposits in the Central City district, Colorado: *


182. Rabbitt, J. C., Summary of the research work of the Trace Elements Section, Geochemistry and Petrology Branch, for the period July 1--September 30, 1951: (Unclassified). November 1951. (TIS; NSA).


193. White, M. G. and Stevens, J. M., Radioactivity traverse along the Yukon River between Ft. Yukon and Ruby, Alaska, 1949: *


195. Wedow, Helmut, Jr., and Tolbert, G. E., Radioactivity at the Copper Creek copper lode prospect, Eagle district, east-central Alaska: (Official use only). September 1952. (C-335).


204. Witkind, I. J., Thaden, R. E., Johnson, D. H., Claus, R. J., and Lough, C. F., Geologic investigations in the Monument Valley area, Apache and Navajo Counties, Arizona: *

205. Benson, W. E., and others, Geologic mapping and study of the copper-uranium deposits in White Canyon, San Juan County, Utah: *


218. Rabbitt, J. C., Summary of the research work of the Trace Elements Section, Geochemistry and Petrology Branch, for the period October 1-December 31, 1951: (Unclassified). February 1952. (TIS).


227. Granger, H. C. and Raup, R. B., Uranium deposits of Arizona: *


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638. Hosley, V. M., Photogeologic map, Straight Cliffs-1 quadrangle, Kane County, Utah: (Unclassified). May 1953. (OF; MC-107*).


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750. Miller, C. F., Photogeologic map, Tidwell-12 quadrangle, Emery County, Utah: (Unclassified). March 1954. (OF; MC-115*).


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793. Platt, J. N., Photogeologic map, Carlisle-12 quadrangle, Wayne, San Juan, and Garfield Counties, Utah: *

794. Hackman, R. J., Photogeologic map, Elk Ridge-2 quadrangle, San Juan County, Utah: (Unclassified). June 1954. (OF; MC-79*).


796. Miller, C. F., Photogeologic map, Bluff-11 quadrangle, San Juan County, Utah: (Unclassified). June 1954. (MC-55*).


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821. Hackman, R. J., Photogeologic map, Circle Cliffs-12 quadrangle, Garfield County, Utah: (Unclassified). July 1954. (MC-69*).

822. Bennett, H. S., Photogeologic map, Elk Ridge-10 quadrangle, San Juan County, Utah: (Unclassified). July 1954. (MC-81*).

823. Detterman, J. S., Photogeologic map, Moab-5 quadrangle, Grand County, Utah: (Unclassified). August 1954. (MC-91*).

824. Orkild, P. P., Photogeologic map, Bluff-5 quadrangle, San Juan County, Utah: (Unclassified). August 1954. (MC-52*).


826. Detterman, J. S., Photogeologic map, Moab-6 quadrangle, Grand County, Utah: (Unclassified). September 1954. (MC-92*).

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830. Withington, C. F. and Hasler, J. W., Interim report on exploration in the Gypsum Valley district, Montrose and San Miguel Counties, Colorado: *

831. Kleinhampl, F. J. and Cannon, H. L., Botanical reconnaissance of uranium deposits near Myton, Utah: *
832. Phoenix, D. A., Conglomerate strata at the base of the Brushy Basin member of the Morrison formation as a guide to the uranium-vanadium deposits: *


834. Mobley, C. M. and Santos, E. S., Interim report on exploration in the Yellow Cat area, Thompson district, Grand County, Utah: *

835. Elston, D. P. and Haynes, D. D., Second interim report on exploration in the Jo Dandy area, Montrose County, Colorado: *


837. Carter, W. D., Preliminary reserve statement 44, Reserve Block A, Hideout Mesa, La Sal Creek area, San Juan County, Utah: *

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842. Sable, V. H., Photogeologic map, Tidwell-2 quadrangle, Emery and Grand Counties, Utah: *
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3017. Hansen, L. A. and Cuppels, N. P., Monazite placer at the junction of the North Tyger River with the Middle Tyger River, Spartanburg County, South Carolina: (Official use only). December 1954.

3018. Hansen, L. A. and Caldwell, D. W., Monazite placers on Rabon Creek, Laurens County, and Big Generostee Creek, Anderson County, South Carolina: *

3019. Hansen, L. A. and Theobald, P. K., Jr., Monazite placers of the Broad River and Thicketty Creek, Cherokee County, South Carolina: *
PART II. TRACE ELEMENTS AND RELATED REPORTS
AVAILABLE TO THE PUBLIC

Many U. S. Geological Survey Trace Elements and related reports have been made available to the public, either by open-file release, reproduction and distribution by Technical Information Service (referred to as TIS), U. S. Atomic Energy Commission, or publication by the Geological Survey or in a scientific journal.

The following list has been compiled as a reference guide to Geological Survey Trace Elements reports on radioactive raw materials that have been made available to the public, through December 31, 1954. These reports are listed according to the type of publication or release. Some reports have been released in more than one form, for which cross-references are indicated in parentheses where appropriate. The abbreviations for the form of publication have been explained under Introduction.

1. Reports released in open file

(*) Indicates report is in preparation

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B - Office of the Director, Montana Bureau of Mines and Geology, Butte, Montana
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D - Geological Survey Public Inquiries Office, Room 468, New Customhouse, Denver, Colorado
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SLA - Atomic Energy Commission, Salt Lake Exploration Branch, Salt Lake City, Utah
T - Arizona Bureau of Mines, University of Arizona, Tucson, Arizona
U - University of Utah, Salt Lake City, Utah
W - Geological Survey, S. 157 Howard Street, Spokane, Washington

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312. Lowell, W. R., Geologic map and structure sections of the southwest quarter Willis quadrangle, Beaverhead County, Montana: Mar. 30, 1953: B; IM; W; Dept. of Geology, Indiana University, Bloomington, Ind.

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383. Ray, R. G., Photogeologic map, Stinking Spring Creek-11 quadrangle, Emery County, Utah: Aug. 25, 1952: D; GJ; SL.

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385. Hackman, R. J., Photogeologic map, Verdure-9 quadrangle, Colorado-Utah: Aug. 25, 1952: D; GJ; SL.

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105. Hackman, R. J., Photogeologic map, Verdure-6 quadrangle, San Juan County, Utah: Oct. 27, 1952: D; GJ; SL.

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547. Hosley, V. M., Photogeologic map, Carlisle-4 quadrangle, Wayne and San Juan Counties, Utah: July 23, 1953: D; GJ; SL.

548. Hackman, R. J., Photogeologic map, Circle Cliffs-2 quadrangle, Garfield County, Utah: Dec. 21, 1953: D; GJ; SL. (MC-59)*

549. Scott, J. M., Photogeologic map, Circle Cliffs-3 quadrangle, Garfield County, Utah: July 23, 1953: D; GJ; SL. (MC-60)*

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552. Hosley, V. M., Photogeologic map, Moab-14 quadrangle, Grand County, Utah: July 23, 1953: D; GJ; SL.

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589. Hemphill, W. R., Photogeologic map, Stinking Spring Creek-2 quadrangle, Emery County, Utah: July 23, 1953: D; GJ; SL.

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605. Henderson, J. R. and Moxham, R. M., Airborne radioactivity survey of the Devil's Tower area, Crook County, Wyoming: June 1, 1953: D; GJ; SF; Geol. Survey Offices at Custer, S. Dak.; Casper and Sheridan, Wyo.; Science Hall, University of Wyoming, Laramie, Wyo.; BA; DA; GJA; H; R; SLA.

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612. Hemphill, W. R., Photogeologic map, Orange Cliffs-7 quadrangle, Wayne County, Utah: Sept. 16, 1953: D; GJ; SL.


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637. Hackman, R. J., Photogeologic map, Circle Cliffs-14 quadrangle, Garfield and Kane Counties, Utah: Oct. 19, 1953: D; GJ; SL. (MC-71)*

638. Hosley, V. M., Photogeologic map, Straight Cliffs-1 quadrangle, Kane County, Utah: Oct. 19, 1953: D; GJ; SL. (MC-107)*

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2. **Trace Elements Reports Issued by Technical Information Service**,  

Trace Elements reports that have been issued by Technical Information Service (referred to as TIS), are listed by the Trace Elements Investigations and Trace Elements Memorandum Report numbers. The asterisk indicates that the report has not yet been released by TIS, or published. If TIS issued a Trace Elements Report under a different number, the TIS number is given after the title (i.e., TEI-23 was issued as AECID-1815 and TEM-441 was issued as TEM-441-A). The year listed is the date shown on the copy of the TIS issue.

Some Trace Elements reports, issued by TIS, are for sale by the Office of Technical Services, Department of Commerce, Washington 25, D. C. Prices for such items are listed after the TIS issuance date.

These reports are on file at the U. S. Geological Survey Library, Room 1033, GSA Building, Washington 25, D. C., and at the following AEC depository libraries:

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Buffalo, Rockwood Memorial Library
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Troy, Rensselaer Polytechnic Institute

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Durham, Duke University Library
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TENNESSEE
Knoxville, University of Tennessee Library
Nashville, Joint University Libraries

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185. White, M. G., Reconnaissance for radioactive deposits along the upper Porcupine and lower Coleen Rivers, northeastern Alaska, July 1952 (TEI-55, -57B).


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a. Geologic quadrangle maps


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