

**Geophysical Laboratory Research Notes and Files, 1907-Present
(Bulk dates 1920-1960)**



**Carnegie Institution of Washington
Geophysical Laboratory Archives
Washington, DC**

Finding aid written by:
Joseph Neumann
August 2008

Geophysical Laboratory Research Notes and Files

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Geophysical Laboratory Research Notes and Files, 1907-Present
GL-2008-02

Introduction

Abstract: This collection is a synthetic assemblage of several Geophysical Laboratory scientists' lab notebooks, correspondence, field notes, and other materials. These items, while fragmentary, illuminate the scientific work and scholarly lives of Olaf Andersen, Clarence N. Fenner, Thomas C. Hoering, Eugene W. Posnjak, J. Frank Schairer, Robert B. Sosman, Walter P. White, and Emanuel G. Zies across the entire history of the Geophysical Laboratory, from the early 1900s to the present.

Extent: 5 records center cartons.

Acquisition: The records have been in the possession of the Geophysical Laboratory since their creation.

Access Restrictions: There are no access restrictions to this collection.

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Preferred Citation: Geophysical Laboratory Research Notes and Files, 1907-Present, Geophysical Laboratory, Carnegie Institution of Washington, Washington, DC.

Processing: Processing completed by Joseph Neumann in 2008.

Biographical Sketches

Olaf Andersen

Olaf Andersen was born in Honeföss, Norway on March 12, 1884. He received a bachelor's degree (1903) and a D.Sc. (1911) from the University of Kristiana (Oslo). Upon completion of his graduate studies in Norway, Andersen came to America, where he worked on petrological and chemical topics at Columbia University. In 1912, he joined the Geophysical Laboratory, conducting research into alkaline earth silicate systems. At the end of World War I, Andersen went back to Norway, to pursue similar work for the Norwegian Geological Survey. In 1928, he returned to the United States, to a position as a petrologist in the Research Laboratory of the U.S. Steel Corporation, in Kearny, New Jersey. At the same time, Andersen began teaching geology and petrography at the Stevens Institute of Technology in Hoboken. He died on July 18, 1941.

Clarence N. Fenner

Clarence Norman Fenner was born near Paterson, New Jersey on July 19, 1870. In 1892 he graduated from the Columbia University School of Mines with an engineer of mines degree, and worked for the next 15 years as a mining geologist in Canada, Mexico, and South America. In 1907 Fenner returned to Columbia University, where he completed a master's degree in 1909

and a Ph.D. the following year. Upon receiving his doctorate, Fenner joined the staff of the Geophysical Laboratory, where he worked as a petrologist for the rest of his career. He participated in geological expeditions to the Katmai region of Alaska (leading one in 1923), Yellowstone National Park, and to other sites in North and South America. While his main professional interest was in petrological topics, Fenner also engaged in pioneering laboratory analyses of volcanic rock samples, developing new theories about the behavior of magmatic rocks during volcanic events. Fenner retired from the Geophysical Laboratory in 1938, and returned to his childhood home in New Jersey, where he continued to explore geological and petrological topics until his death on December 24, 1949.

Thomas C. Hoering

Thomas C. Hoering was born in Alton, Illinois on May 4, 1925. During World War II he served in the Pacific as a Navy radioman. After the war, he attended Washington University in St. Louis, from which he received bachelor's (1948), master's (1950), and doctoral (1952) degrees in chemistry. Between 1952 and 1958 he was Associate Professor of Chemistry at the University of Arkansas. He came to the Geophysical Laboratory in 1959 as an organic chemist, where he remained until his death on July 20, 1995. Hoering's work concerned the study of fossil molecules in rock and petroleum deposits, the chemistry of soils, and other geochemical and petrologic topics.

Eugene W. Posnjak

Eugene Waldemar Posnjak was born in Moscow, Russia on June 23, 1888. Upon the completion of a Ph.D. at the University of Leipzig in 1912, Posnjak came to America, where he briefly held a research associate position in physical chemistry at MIT. In 1913, Posnjak joined the staff of the Geophysical Laboratory as a chemist. During his career, he studied such topics as the structure of crystals, ferromagnetism, and colloidal chemistry. Ill-health forced his resignation in 1947, and Posnjak died in Santa Barbara, California on July 31, 1949.

J. Frank Schairer

John Frank Schairer was born in Rochester, New York on April 13, 1904. After completing a bachelor's degree in chemistry (1925) and a master's degree in mineralogy (1926) at Yale, he came to work for the Geophysical Laboratory in 1927. Schairer wrote his doctoral dissertation (and passed his comprehensive examinations in organic and physical chemistry) while working in Washington; Yale awarded him his Ph.D. in chemistry in 1928. At the Geophysical Laboratory, Schairer conducted research at the intersection of geochemistry and mineralogy until his retirement in 1969. He died on September 26, 1970.

Robert B. Sosman

Robert Browning Sosman was born in Chillicothe, Ohio on March 17, 1881. He received a bachelor's degree in chemistry from the Ohio State University in 1903, and a Ph.D. from MIT in 1907. In 1908, he came to the Geophysical Laboratory, where he worked as physicist until 1928, when he left the Carnegie Institution to join the Research Laboratory of the U.S. Steel Corporation in Kearny, New Jersey. Between 1941 and 1944 Sosman was a member of the War Production Board, returning to U.S. Steel in 1944 as assistant director of the Research Laboratory. From 1947 until 1962 he taught in the School of Ceramics at Rutgers University. He died on October 30, 1967.

Walter P. White

Walter Porter White was born in Roxbury, Massachusetts on February 23, 1867. He received his bachelor's (1887) and master's (1892) degrees from Amherst College before pursuing graduate studies at Harvard, MIT, the University of Wisconsin, and Cornell University between 1888 and 1904. He received his Ph.D. from Cornell in 1904. The same year, he came to the Geophysical Laboratory as a staff physicist. White's work focused upon calorimetry, optics, and precision measurement. He retired from the Carnegie Institution in 1935 and died on February 7, 1946.

Emanuel G. Zies

Emanuel George Zies was born in Baltimore, Maryland on September 26, 1884. He received his bachelor's degree from Johns Hopkins University in 1906 and his Ph.D. in chemistry from the same institution in 1909. Zies came to work as a chemist for the Geophysical Laboratory in 1913, where he pursued research in geochemical volcanology. In 1919 he participated in the Carnegie Institution-National Geographic Society expedition to the Valley of Ten Thousand Smokes in the Katmai region of southern Alaska, and in the 1920s and 1930s conducted field studies of volcanoes in Indonesia and Central America. Zies retired in 1949, but continued active participation in the scientific work of the Geophysical Laboratory until 1967. He died on April 26, 1981.

Scope and Content

This collection consists of lab and field notebooks, scholarly and professional correspondence, maps, newspaper clippings, photographs, and other material produced or collected by Geophysical Laboratory scientists Olaf Andersen, Clarence N. Fenner, Thomas C. Hoering, Eugene W. Posnjak, J. Frank Schairer, Robert B. Sosman, Walter P. White, and Emanuel G. Zies in the course of their work, in Washington and in the field, between 1907 and the present. The materials document their research and experimentation in chemistry, geochemistry, volcanology and seismology, physics, and mineralogy, among other topics, and well as field work in Central and South America, Indonesia, the Mediterranean, Alaska, and other locations. The collection is housed in five records center cartons.

Arrangement

This collection is arranged into eight series.

Series 1. Olaf Andersen Files, 1917-1918, 1923, 1928

Series 2. Clarence N. Fenner Files, 1936-1937

Series 3. Thomas C. Hoering Files, 1959-1994

Series 4. Eugene W. Posnjak Files, 1913-1940, n.d.

Series 5. J. Frank Schairer Files, 1907-1970, n.d.

Subseries A: Correspondence, 1927-1970, n.d.

Subseries B: Laboratory and Research, 1907-1960, n.d.

Subseries C: Professional Activity, 1957-1960, n.d.

Series 6. Robert B. Sosman Files, 1908-1918, 1923, 1928, n.d.

- Series 7. Walter P. White Files, 1908-1932
- Series 8. Emanuel G. Zies Files, 1908-1966, n.d.
- Subseries A: Volcanology in El Salvador and Guatemala, 1931-1953, n.d.
 - Sub-subseries i: Notebooks, 1932-1953
 - Sub-subseries ii: Notes, Reports, and Correspondence, 1931-1950
 - Sub-subseries iii: Rock Sample Cards and Notes, 1947-1950
 - Sub-subseries iv: Images, Prints, and Negatives, 1932, 1938, 1949, n.d.
 - Subseries B: Volcanology in Mexico (Paricutin), 1943-1949
 - Subseries C: Volcanology in South America, Hawaii, Alaska, Indonesia, and Italy, 1919-1928, 1941-1946, 196-1966, n.d.
 - Subseries D: Correspondence, Research Materials, and Notes, 1908-1966, n.d.

Series Descriptions

Series 1: Olaf Andersen Files, 1917-1918, 1923, 1928

The *Olaf Andersen Files* consist of four lab notebooks containing data recorded during experiments conducted by Olaf Andersen between 1917 and 1928. The notebooks are arranged according to Andersen's numbering system in two folders.

Series 2: Clarence N. Fenner Files, 1936-1937

The *Clarence N. Fenner Files* consist of a single Lefax field notebook recording data collected and observations made by Fenner during a research expedition to Antarctica in 1936 and 1937.

Series 3: Thomas C. Hoering Files, 1959-1994

The *Thomas Hoering Files* consist of four field notebooks and 31 "volumes" of lab notebooks produced by Hoering between 1959 and 1994. The field notebooks record observations made by Hoering, as well as scientific travel and meetings, and are arranged in chronological order in two folders. The lab notebooks document 35 years of experiments carried out by Hoering, and are arranged in chronological order, without folders.

Series 4: Eugene W. Posnjak Files, 1913-1940

The *Eugene W. Posnjak Files* consist of lab notebooks created by Posnjak from his arrival at the Geophysical Laboratory in 1913 until 1940, seven years before his retirement. They document the various chemical experiments conducted by Posnjak during that time, and contain many diagrams and sketches. They are arranged chronologically, by year, in folders.

Series 5: J. Frank Schairer Files, 1907-1970, n.d.

The *J. Frank Schairer Files* consist of scholarly and professional correspondence; lab materials, notes and diagrams; photographs; maps; and a single field notebook. It is arranged into three subseries: (A) Correspondence, (B) Laboratory and Research, and (C) Professional Activity.

Subseries A: Correspondence, 1927-1970, n.d.

There are two folders of Schairer's correspondence, which deal with scientific inquiries to and from scientists and laymen about topics of scientific interest to Schairer. The correspondence is arranged alphabetically by correspondent. A third folder consists of correspondence related to

the Geochemical Society. Schairer was closely involved in the organization of the Society in the 1950s, serving as a vice president in 1958 and as president in 1959.

Subseries B: Laboratory and Research, 1907-1960, n.d.

Schairer's laboratory and research files consist of maps, seismometer records, and commercial and experimental information about potentiometers, gathered in the course of laboratory work.

Subseries C: Professional Activity, 1957-1960, n.d.

Subseries C consists of photographs of Schairer at scientific conferences in the late 1950s; correspondence related to the Geochemical Society, of which he was a participating founder and vice president; and a single field notebook, recording a European trip in 1960.

Series 6: Robert B. Sosman Files, 1908-1918, 1923, 1928, n.d.

The *Robert B. Sosman Files* consist of 19 lab notebooks documenting Sosman's experimental activity at the Geophysical Laboratory between 1908 and 1928. While most of the notebooks record data from calorimetric and other experiments, some also consist of a record of Sosman's scholarly activities outside the laboratory. The notebooks are arranged according to Sosman's alphanumeric system, and are indexed in a special notebook prepared by Sosman.

Series 7: Walter White Files, 1908-1932

The *Walter White Files* consist of scholarly correspondence between White and colleagues in academia, private industry, and the federal government's scientific bodies. The material is fragmentary (the letters were preserved by chance among unrelated Geophysical Laboratory routine correspondence), and in many cases only one or two letters survive. For several correspondents, such as Dr. John Johnston of Yale University or Dr. Mayo Hersey of the U.S. Bureau of Mines, there exist a number of letters, along with White's replies. The series is arranged alphabetically by correspondent, and then chronologically, in two folders.

Series 8: Emanuel G. Zies Files, 1908-1966, n.d.

The *Emanuel G. Zies Files* consist of field and lab notebooks; correspondence; prints and negatives of volcanoes, expedition participants, and landscapes; meeting minutes; and maps created and used by Zies in the course of his scientific work for the Geophysical Laboratory. It is arranged into four subseries: (A) Volcanology in El Salvador and Guatemala; (B) Volcanology in Mexico; (C) Volcanology in South America, Hawaii, Alaska, Java and Bali, and Italy; and (D) Correspondence, Research Materials, and Notes.

Subseries A: Volcanology in El Salvador and Guatemala, 1931-1953

Subseries A consists of files related to Zies' fieldwork in Central America at the volcanoes of Santiaguito, El Salvador and Santa Maria, Guatemala. Correspondence, notes, photographs, and reports document the administration, planning, and carrying out of the fieldwork. Subseries A is arranged into four sub-subseries: (i) Notebooks, (ii) Notes, Reports, and Correspondence, (iii) Rock Sample Cards and Notes, and (iv) Images, Prints, and Negatives.

Subseries B: Volcanology in Mexico (Paricutin), 1943-1949, n.d.

The files of Subseries B document Zies' activities in Mexico studying the emergent volcano Paricutin in the late 1940s. It consists of correspondence, meeting minutes, paper drafts, and reports.

Subseries C: Volcanology in South America, Hawaii, Alaska, Java and Bali, and Italy, 1919-1928, 1941-1946, 1960-1966, n.d

Subseries C consists of files related to volcanological work undertaken by Zies in various locations, and includes prints of the 1919 expedition to Alaska, field notebooks, and rough drafts of scientific papers.

Subseries D: Correspondence, Research Materials, and Notes, 1908-1966, n.d.

Subseries D consists of material not directly related to the volcanological fieldwork documented in the previous subseries, and includes notebooks, maps, research notes, scientific papers in manuscript, and other materials.

Folder Listing

	Box	Folder
Series 1: Olaf Andersen Files, 1917-1918, 1923, 1928		
Notebooks: "O.G. 1—Meltings", "O.G. 2—Meltings", 1917-1918	1	1
Notebooks: "O.G. 3—Refractive Indices", "O.G. 4—Determination of Densities", 1917-1918, 1923, 1928.		2
Series 2: Clarence N. Fenner Files, 1936-1937		
Notebook: "Rock, etc. Analysis: Antarctica Geophys. Laboratory Paper #949", 1936-1937		3
Series 3: Thomas C. Hoering Files, 1959-1994		
Field Notes, 1963-1984		4
"Air Samples for O18/O16", 1984-1985		5
Laboratory Notebook #1, January 1959-November 1959		6
Laboratory Notebook #2, November 1959-June 1960	1	7
Laboratory Notebook #3, June 9, 1960-January 18, 1961		8
Laboratory Notebook #4, January 18, 1961-June 6, 1961		9
Laboratory Notebook #5, June 8, 1961-July 24, 1962		10
Laboratory Notebook #6, July 31, 1962-December 10, 1962		11
Laboratory Notebook #7, December 10, 1962-October 8, 1963		12
Laboratory Notebook #8, October 8, 1963-September 3, 1964		13
Laboratory Notebook #9, September 3, 1964-February 5, 1965		14
Laboratory Notebook #10, February 5, 1965-July 20, 1965		15
Laboratory Notebook #11, July 20, 1965-March 24, 1966		16
Laboratory Notebook #12, April 1, 1966 to January 2, 1967		17
Laboratory Notebook #13, January 2, 1967-November 1, 1967		18
Laboratory Notebook #14, November 1, 1967-February 26, 1969		19

	Box	Folder
Laboratory Notebook #15, February 25, 1969-December 12, 1969		20
Laboratory Notebook #16, December 12, 1969-December 29, 1970		21
Laboratory Notebook #17, December 29, 1970-September 15, 1971		22
Laboratory Notebook #18, September 15, 1971-September 15, 1972		23
Laboratory Notebook #19, September 15, 1972-November 1, 1973		24
Laboratory Notebook #20, November 2, 1973-July 11, 1974		25
Laboratory Notebook #21, July 12, 1974-August 31, 1975		26
Laboratory Notebook #22, September 1, 1975-October 11, 1976		27
Laboratory Notebook #23, October 12, 1976 to September 8, 1977		28
Laboratory Notebook #24, September 8, 1977-April 27, 1979		29
Laboratory Notebook #25, April 27, 1979-June 1, 1981		30
Laboratory Notebook #26, June 1, 1981-January 13, 1983	2	1
Laboratory Notebook #27, January 13, 1983-October 21, 1985		2
Laboratory Notebook #28, October 21, 1985-December 26, 1986		3
Laboratory Notebook #29, December 26, 1986-January 5, 1989		4
Laboratory Notebook #30, January 5, 1989-March 27, 1992		5
Laboratory Notebook #31, March 27, 1992-Month XX, 1994		6

Series 4: Eugene W. Posnjak Files, 1913-1940, n.d.

Laboratory Notebooks, 1913		7
Laboratory Notebooks, 1913-1914		8
Laboratory Notebooks, 1914-1915		9
Laboratory Notebooks, 1915-1916		10
Laboratory Notebooks, 1916		11
Laboratory Notebooks, 1918-1919		12
Laboratory Notebooks, 1920-1925		13
Laboratory Notebooks, 1925		14
Laboratory Notebooks, 1926		15
Laboratory Notebooks, 1927		16
Laboratory Notebooks, 1927		17
Laboratory Notebooks, 1927-1928		18
Laboratory Notebooks, 1928-1929	3	1
Laboratory Notebooks, 1930	3	2
Laboratory Notebooks, 1931		3
Laboratory Notebooks, 1931		4
Laboratory Notebooks, 1931-1933		5
Laboratory Notebooks, 1935-1939		6
Loose Laboratory Notes, 1936		7
Loose Laboratory Notes, 1937-1940		8
Loose Laboratory Notes, n.d.		9

Series 5: J. Frank Schairer Files, 1907-1970, n.d.

Series 5, Subseries A: Correspondence, 1927-1970, n.d.

Correspondence (Amstutz-Holmes), 1927-1970		10
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	Box	Folder
Correspondence (Johnson-Wyckoff), 1929-1962		11
Series 5, Subseries B: Laboratory and Research, 1907-1960, n.d.		
Maps, 1916-1960, n.d.		12
Potentiometers, 1907-1951, n.d.		13
Seismometer Records, 1940		14
Series 5, Subseries C: Professional Activity, 1957-1960, n.d.		
Photographs, n.d.		15
Geochemical Society Correspondence and Minutes, 1957-1959, n.d.		16
Field Notebook, 1960		17
Series 6: Robert B. Sosman Files, 1908-1918, 1923, 1928, n.d.		
Notebook: "Index", n.d.	4	1
Notebooks: "A1: Gas Thermometer/Thermoelements", "A2: Gas Thermometer", "A3: Gas Thermometer/Thermoelements", 1908-1921		2
Notebooks: "B1: Journal/Miscellaneous", "B2: Melting Points no. 1", 1908-1909		3
Notebooks: "B3: Expansion Coeff. Pt-Rh", "B4: Thermoelements", 1908-1918, 1928,		4
Notebooks: "B5: Melting Points no. 2", "B6: Melting Points no. 3", 1908-1913		5
Notebooks: "B7: Furnaces & Refractories", "B8: Journal", 1909-1917, 1923, 1928		6
Notebooks: "B9: Densities", "B10: Gas Thermometer/Thermoelements", 1910-1915		7
Notebooks: "B11: Densities", "B14: Journal", 1912-1918		8
Notebooks: "S5: Calibration Elements", "S6: Calibration Elements, 1910		9
Notebooks: "S7: Thermoelements", "S: [Tests on Phosphate Rock]", 1910-1913		10
Series 7: Walter White Files, 1908-1932		
Correspondence (Argo-Loomis), 1914-1930		11
Correspondence (Maier-Worthing), 1908-1932	4	12
Series 8: Emanuel G. Zies Files, 1908-1966, n.d.		
Series 8, Subseries A: Volcanology in El Salvador and Guatemala, 1931-1953		
Series 8, Subseries A, Sub-subseries i: Notebooks 1932-1953		
Santa Maria, Guatemala, 1932		13
Santa Maria, Guatemala, 1935-1939		14
Santiaguito, El Salvador, 1940 [Folder 1 of 2]		15
Santiaguito, El Salvador, 1940 [Folder 2 of 2]		16
Santa Maria, Guatemala Sample Logs, 1953		17
Series 8, Subseries A, Sub-subseries ii: Notes, Reports, and Correspondence, 1931-1950		
Notes, Reports, and Correspondence, 1931-1948, n.d.		18

	Box	Folder
Notes, Reports, and Correspondence, 1932-1948, n.d.		19
Notes, Reports, and Correspondence, 1937-1940, n.d.		20
News Clippings, 1932-1943		21
Dr. Merwin's Rough Notes, 1950		22
<i>Audograph</i> [sic] <i>Electronic Soundwriter</i> vinyl dictation records—"Rocks of Santiaguito", 1950		23

Series 8, Subseries A, Sub-subseries iii: Rock Sample Cards and Notes, 1947-1950

SM 35, 1947		24
Z 20, 1950		25
Z 21, 1950		26
Z 22, 1950		27
Z 23, Z 24A, Z 36, Z 36i, 1950		28
Z 24, Z 24A, Z 36, 1950		29
Z 25, 1950		30
Z 26, 1950		31
Z 27, 1950		32
Z 28, 1950		33
Z 29 (includes Z 29A), 1950		34
Z 30, 1950		35
Z 31, 1950		36
Z 32, 1950		37
Z 33, 1950		38
Z 34, Z 34i, 1950		39
Z 35, 1950		40

Series 8, Subseries A, Sub-subseries iv: Images, Prints, and Negatives, 1932, 1938, 1949, n.d.

Prints and Negatives, 1932, 1938, 1949	5	1
Sketches of Santiaguito, n.d.		2
Negatives and Prints—Title Index, n.d.		3

Series 8, Subseries B: Volcanology in Mexico (Paricutin), 1943-1949, n.d.

Paricutin—Program of Research, 1943-1947	5	4
Paricutin—Formation of the Paricutin Committee, 1943-1947		5
Paricutin—Howel Williams Correspondence, 1944-1945		6
Paricutin—Fuller Correspondence, 1944-1946		7
Paricutin—Paricutin Committee Minutes, 1944-1946		8
Paricutin—Early Draft of Paper on Temperature Measurements and Data, 1945-1949		9
Paricutin—Krauskopf Correspondence, 1946		10
Paricutin—Equipment Furnished Wilcox, 1946		11
Paricutin—Wilcox and Segerstrom Monthly Reports, 1946-1947		12
Paricutin—Hatt, Robert J., 1947		13
Paricutin—Bibliography, 1947, n.d.		14

Series 8, Subseries C: Volcanology in South America, Hawaii, Alaska, Java and Bali, and Italy, 1919-1928, 1941-1946, 1960-1966, n.d.

Expedition to the Valley of Ten Thousand Smokes, Katmai, Alaska—Prints and Negatives, 1919	15
Hawaii Field Notebook and Island of Hilo map negative, 1922, n.d.	16
Pantelleria, Italy, 1960-1966	17
Java and Bali Field Notebooks, 1928	18
Java Expedition Miscellaneous Letters and Other Information, 1928	19
Volcanology in South America, 1941-1946	20

Series 8, Subseries D: Correspondence, Research Materials, and Notes, 1908-1966, n.d.

Lab Notebooks, 1908-1913, 1927	21
Research Materials, Notes, and Articles 1932-1939, n.d.	22
Research Materials, Notes, and Articles 1947-1966, n.d.	23
Cloth Map-Book of Guatemala, 1924	24
Maps, 1928, 1936, 1964, n.d.	25
Instrument Print and Negative, n.d.	26

Subject Terms

- Topics:*
- Chemists--Correspondence
 - Geochemistry
 - Geologists--Correspondence
 - Geology
 - Geophysics
 - Paricutin (Mexico)
 - Petrology
 - Physicists—Correspondence
 - Santiaguito Volcano (Guatemala)
 - Scientific expeditions
 - Volcanoes
 - Volcanological research
- Occupations:*
- Chemists
 - Geologists
 - Geophysicists
 - Physicists
 - Volcanologists
- Personal Names:*
- Andersen, Olaf, b. 1884
 - Fenner, C. N. (Clarence Norman), b. 1870
 - Hoering, Thomas C.
 - Posnjak, Eugene W.

Schairer, John Frank, 1904-
Sosman, Robert B. (Robert Browning), 1881-1967
White, Walter Porter, 1867-
Zies, E. G. (Emanuel George), 1883-1981

Corporate Names: Carnegie Institution of Washington. Geophysical Laboratory
Geochemical Society

Forms: Clippings
Correspondence
Field notes
Laboratory notebooks
Laboratory notes
Maps
Memorandums
Photographs

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[Unsigned.] "Robert B. Sosman." *American Ceramic Society Bulletin* 46, 1227, 1967.

[Unsigned.] *Thomas C. Hoering: Recollections and Bibliography*. Carnegie Institution of Washington, 1995.

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Related Collections

Emanuel George Zies Collection, 1898-1955

Global Volcanism Program Archives, National Museum of Natural History, Smithsonian Institution, Washington DC

Geophysical Laboratory General Files, 1900-Present

Geophysical Laboratory, Carnegie Institution of Washington, Washington, DC

See the following folder titles in this collection for related material:

Central American Volcanological Research
Fenner, C.N.
Fuller, Richard E. (Committee on Paricutin)
Katmai Expedition, 1919
Katmai Project
Valley of Ten Thousand Smokes—Fumaroles
Yellowstone Field Notes, 1928
Zies Collection