

Diane Wolfgram Papers, 1921-1995

5038

Finding aid prepared by Tia Stenson

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Describing Archives: A Content Standard

Homestake Adams Research and Cultural Center

April 2022

Deadwood History, Inc.

150 Sherman Street

Deadwood, South Dakota, 57732

(605) 722-4800

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Summary Information

Repository	Homestake Adams Research and Cultural Center
Creator	Wolfgram, Diane
Title	Diane Wolfgram Papers
Date	1921-1995
Extent	1.0 Linear feet 1 Box, 4 videorecordings (3 DVDs, 1 VHS)
Language	English
Abstract	<p>Diane Wolfgram earned her B.S. degree in geological engineering, with honors, from South Dakota School of Mines & Technology in 1962 and her M.A. and Ph.D. degrees in geology from the University of California, Berkeley in 1974 and 1977, respectively. Her doctoral dissertation, “Wall Rock Alteration and the Localization of Gold in the Homestake Mine, Lead, South Dakota,” is credited with adding twenty years to the life of the Homestake Mine. She is Professor Emeritus of Geological Engineering at Montana Tech after her retirement in 2019. This collection contains one box of materials related to her dissertation titled “Wall Rock Alteration and the Localization of Gold in the Homestake Mine, Lead, South Dakota” written in 1977. The materials are reports written by Diane, drafts of the manuscript, data and calculations, photographs, other resources cited, and various audio-visual materials.</p>

Biographical/Historical Note

Diane Wolfgram earned her B.S. degree in geological engineering, with honors, from South Dakota School of Mines & Technology in 1962 and her M.A. and Ph.D. degrees in geology from the University of California, Berkeley in 1974 and 1977, respectively. Her doctoral dissertation, "Wall Rock Alteration and the Localization of Gold in the Homestake Mine, Lead, South Dakota," is credited with adding twenty years to the life of the Homestake Mine, the largest private employer in South Dakota at that time.

Diane was employed as a petroleum engineer by Shell Oil Company from June 1962 to June 1963, when she entered active duty as a 2nd Lieutenant in the United States Army. She was promoted to 1st Lieutenant a year later and to the rank of Captain in July 1966. Diane served two non-consecutive tours of duty in the Republic of Vietnam and was awarded two Bronze Star Medals for Meritorious Service and the Air Medal and Army Commendation Medal for Meritorious Achievement in that combat theater. After resigning her commission in December 1969, she was employed by engineering consulting firms in the San Francisco Bay Area before embarking on graduate studies at Berkeley in January 1971.

Diane joined Anaconda Copper Mining Company's Butte Operations as a mine geologist in 1978, where she was involved in the Deep Butte Exploration Drilling Program. She was transferred to the Stillwater Platinum Group Metal Underground Exploration Project in 1980, and a year later was placed in charge of all geologic aspects of the project. When responsibility for the project was transferred to Anaconda's mine development group, Diane was reassigned to Anaconda's corporate office in Denver, where she and a group of former Stillwater exploration geologists conceived and organized a unique and successful Precious Metals Exploration Task Force. In late 1985, Diane left the Anaconda Company (which was dissolved by Atlantic Richfield Company (ARCO) 6 months later) to form her own consulting firm in partnership with another former Stillwater exploration project geologist. In the ensuing seven years, Diane and her partner worked, for the most part, under contract to Stillwater Mining Company, but also conducted gold exploration in northern Nevada.

Diane joined the faculty of Montana Tech as an assistant professor of geological engineering in January 1992 and was promoted to the rank of associate professor in 1994. In 1996, she was appointed to the position of Head of the Department of Geological Engineering and promoted to full professor with tenure in 1999. Her teaching duties included courses focused on the formation and identification of minerals and rocks, the characterization and formation of geologic structures, the practice of mining geology, geologic field mapping, and the geological engineering senior design course. Diane was appointed to the position of Head of the Department of Mining Engineering, currently with Geological Engineering, in 2006 and remained in both until 2009. She retired and became Professor Emeritus in 2019.

Diane is the co-author of two publications and six abstracts, all related to platinum group mineralization in the J-M Reef of the Stillwater Complex, and one Montana Bureau of Mines and Geology open-file map of the Elkhorn Mountains volcanics north of the Golden Sunlight Mine. She is also the author of 15 unpublished documents and the co-author of five more in the Anaconda Geological Document Collection that is available to the public at the Western History Center of the University of Wyoming in Laramie.

Other documents remain in the private sector because they pertain to mining properties that Anaconda sold to other interests.

Diane is licensed as a professional geologist in California and as a professional engineer (mining and mineral processing) in Montana. She is a Fellow of the Society of Economic Geologists, a senior member of the Society for Mining, Metallurgy, and Exploration, a senior member of the Geological Society of America, and the founding governor of Link 178 of the Order of the Engineer at Montana Tech. (Information is taken from <https://mus.edu/board/meetings/2019/May2019/AdminBudget/183-1501-R0519.pdf>)

Scope and Contents Note

The Diane Wolfgram Papers are one box of materials related to her dissertation titled “Wall Rock Alteration and the Localization of Gold in the Homestake Mine, Lead, South Dakota” written in 1977. The materials are reports written by Wolfgram, drafts of the manuscript, data and calculations, photographs, other resources cited, and various audio-visual materials.

Series 1: Diane Wolfgram's Reports and Publications include materials such as her dissertation and other reports related to her education.

Series 2: Dissertation Data and Drafts are the materials that are related to the creation of her dissertation such as drafts of drawings and tables, calculations for samples, a sample data log, related Homestake Mining Company documentation, photographs and negatives, and her resume.

Series 3: Resources Cited are reports, dissertations, papers, and other publications used in her dissertation and other research.

Series 4: Audio-Visual Materials are DVDs and VHSs related to the Homestake Mining Company.

Arrangement Note

The collection is arranged in four series, Diane Wolfgram Reports and Publications, Dissertation Data and Drafts, Resources Cites, and Audio-Visual Materials.

Series 1: Diane Wolfgram's Reports and Publications are arranged chronologically with undated materials at the end.

Series 2: Dissertation Data and Drafts are arranged alphabetically.

Series 3: Resources Cited are arranged chronologically.

Series 4: Audio-Visual Materials are arranged alphabetically.

Administrative Information

Publication Information

Homestake Adams Research and Cultural Center April 2022

Conditions Governing Access

This collection is housed at the Homestake Adams Research and Cultural Center with no restrictions to access. The collection may be utilized during normal operating hours or by appointment.

Immediate Source of Acquisition

These materials were transferred as a single donation, accession number 2021.017, from Diane Wolfgram on July 26, 2021.

Processing Information

This collection was processed March-April 2022 by Tia Stenson.

Related Materials

Related Materials

Additional archival materials related to Diane Wolfgram and her dissertation can be found in the Homestake Mining Company Collection including the following: 5025 Periodicals and Published Works, 5027 United States Geologic Survey Publications, 5028 Homestake Thesis Collection, 5032 Homestake Reports and Courses Collection, and 5035 Homestake Geology Department Papers.

Diane Wolfgram Reports and Publications

Collection Inventory

Series 1: Diane Wolfgram Reports and Publications

	Box	Folder
The System Fe ₂ O ₃ -FeO -CO ₂ -H ₂ O 25 Degrees Centigrade and One Atmosphere, 1972	1	1
The Metamorphic Zonation of the Lead District, South Dakota, 1973	1	2
Wall Rock Alteration and the Localization of Gold in the Homestake Mine, Lead, South Dakota by Diane Wolfgram, 1977	1	3
Preliminary Report of Investigation - 21 Ledge - Homestake Gold Mine	1	4

Series 2: Dissertation Data and Drafts

	Box	Folder
Calculations and Drawings	1	5
Diane Wolfgram's Resume	1	6
Drafts of Figure and Tables	1	7-9
Field Notes, 1973	1	10

Resources Cited

Homestake Manuscript	1	11
Homestake Mining Company Diamond Drilling Data, 1965-1969	1	12
Homestake Mining Company Ephemera, 1994-1995	1	13
Photographs - Negatives	1	14
Photographs - Prints	1	15
Sample Calculations	1	16
Sample Data	1	17
Sample Description Log	1	18
Series 3: Resources Cited		
	Box	Folder
Geological Methods of the Homestake Mining Co., Lead S. D. by Lawrence B. Wright and Joseph O. Hosted, 1921	1	19
Geology of the Homestake Orebodies and the Lead Area of South Dakota by J.O. Horsted and L. B. Wright, 1923	1	20
The Geology of the Homestake Mine by Sidney Page, 1923	1	21

Resources Cited

Half Century of Mining in the Black Hills by Francis Church Lincoln, 1926	1	22
Bulletin No. 15 - The Tertiary Mineralization of the Black Hills by Joseph P. Connolly, 1927	1	23
Metamorphism and Hydrothermal Alteration of the Homestake Gold- Bearing Formation by J. K. Gustafson, 1930	1	24
The Homestake Enterprise, 1931	1	25
Stratigraphy and Metamorphism in a Part of the Northern Black Hills and the Homestake Mine, Lead, South Dakota by James A. Noble and James O. Harder, 1948	1	26
Structure of a Part of the Northern Black Hills and the Homestake Mine, Lead South Dakota by James A. Noble, James O. Harder and A. L. Slaughter, 1949	1	27
Ore Mineralization in the Homestake Gold Mine, Lead, South Dakota by James A. Noble, 1950	1	28
Geological Survey Bulletin 1332-A -- A Preliminary Report on the Geology and Gold Deposits of the Rochford District, Black Hills, South Dakota by Richard W. Bayley, 1972	1	29
The Stable and Lead Isotopes of Parts of the Northern Black Hills: Age and Origin of the Homestake and Surrounding Ore Bodies by Danny Michael Rye, 1972	1	30

Audio-Visual Materials

Geological Survey Circular 699 -- Gold in the Black Hills, South Dakota, and How New Deposits Might be Found by James J. Norton, 1974	1	31
Donald McLaughlin Oral History -- Copy No.2, 1975	1	32
Geology of the Black Hills, South Dakota and Wyoming by Frederick J. Rich, 1981	1	33
Gold - its History and role in the U.S. Economy and the U.S. Exploration Program of Homestake Mining Co. by James A. Anderson, 1982	1	34
Metallogeny of Gold in the Black Hills South Dakota by Colin J. Paterson and Alivis L. Lisenbee, 1990	1	35
Series 4: Audio-Visual Materials		
	Box	Folder
1940 Homestake Mining Promotion Film (DVD)	1	36
Greatest Gold Mine... In the World (DVD)	1	37
Integrity, Strength, Leadership (VHS), 1988	1	38
The Magic of Homestake Gold (DVD)	1	39