**Illinois Institute of Technology**
University Archives & Special Collections
Galvin Library, Chicago

# Collection Guide: Snow Cruiser & Thomas C. Poulter, Alfred L. Eustice, Harold Vagtborg, F. Alton Wade, and Richard E. Byrd.

## Overview

The Snow Cruiser was a mobile research laboratory developed by Armour Research Foundation (ARF) to be used by Adm. Richard E. Byrd on his third expedition to Antarctica in 1939. The vehicle was driven across land from Chicago where it was built to the East Coast of the United States where it was loaded onto a ship and taken to "Little America" in the Antarctic. Dr. F. Alton Wade was the vehicle's captain. When Adm. Byrd was recalled to the United States, the Snow Cruiser was left in Antarctica. In 1958, it was found "under 14 feet of ice and snow," according *IITRI: A Fifty Year Portrait, 1936 – 1986*.

Alfred L. Eustice received a degree in Electrical Engineering in 1907 from Armour Institute of Technology (a predecessor college of Illinois Institute of Technology).

Armour Research Foundation (ARF) was one of the first private, not-for-profit contract research laboratories in the United States. Begun in Chicago in 1936 by Armour Institute of Technology (AIT), ARF was acquired by Illinois Institute of Technology in 1940 when IIT was created by the merger of AIT and Lewis Institute. Re-named Armour Research Foundation of Illinois Institute of Technology, it was later reorganized as the IIT Research Institute (IITRI). Under all its iterations, the laboratory conducted research for commercial and government sources, expanding to an international operation.

## Materials in UASC

### *Processed Collections*

*031.06.06* *Snow Cruiser Photos, Elbert M. Decker Papers*
Six 8 x 10" black and white photos dated 1939 of Snow Cruiser during its test run and public exhibit in Soldier Field. Note that copyright restrictions limit reproduction and use of these images. Item listing:

1. News reel cameraman photographing the Snow Cruiser.
2. Snow Cruiser with people viewing it.
3. Adm. Byrd in front of Snow Cruiser.
4. View of Snow Cruiser with man standing on top.
5. View showing ramped front underside.
6. Close-up view of tire and hydraulic column used to life wheel.

*1998.017* *Lewis Institute Records*
One item: Ad in *Bulletin of the Western Society of Engineers* about a presentation by Harold Vagtborg scheduled for Nov. 16, 1939 on the Snow Cruiser.

*031.06.02* *Snow Cruiser Film*
Black and white silent film: *From Armour Institute to Little America—With Byrd and Poulter*. Probably produced by Armour Research Foundation for

promotional purposes. Contains only a few feet of footage of the Cruiser being driven down a street (probably from Pullman shops to Grant Park in 1939). Also contains footage of the plane taking off from unidentified airport. Balance of film is apparently stock footage added to suggest the Cruiser's transport to Antarctica. Ca. 9 minutes long. Item is available for viewing, in VHS video cassette format, in the IIT Archives only

*024.04.01* *Henry T. Heald President's Papers*
Box 83/Folder: Research Foundation of A.I.T., Antarctic Snow Cruiser, 1939-1940. Includes photos of the model; diagrams of floor plan and cut-away drawings of interior.

*031.06.03* *Snow Cruiser in Life Magazine*
Issue of *Life* magazine from Nov. 13, 1939 with one-page article (pg. 28), "Giant Snow Cruiser Comes to Grief in Ohio Cow Pasture," citing problems encountered on its trial run from Chicago to Boston; includes four photographs.

*1998.130* *Non-Serial Publications*
Box 32 contains one folder titled Snow Cruiser

*1998.160* *J. C. Peebles Papers*
Unpublished manuscript A History of Armour Institute of Technology by James Clinton Peebles concerning the history of Armour Institute of Technology and Armour Research Foundation; see pages 131-134 for coverage of the Snow Cruiser.

*1998.186* *Armour Institute of Technology Records*
Box 4/Folder 21 includes a letter dated June 2, 1939, invitation and tickets to commencement for J.M. Frank, president ILG Electric Ventilation to commencement. Frank's 5/29/1939 acceptance with note "…the Snow Cruiser matter is…confidential."
Box 4/Folder 22 includes a memo dated Aug. 8, 1939: Alexander Schreiber AIT re "Snow Cruiser" designed by Research Foundation AIT staff; this memo concerned with publicity.
Also contains additional information on Alfred LeRoy Eustice.

*031.08.02* *Armour Research Foundation Photographs*
Negatives and contact prints of black and white images documenting scientists and research projects of Armour Research Foundation (later, IITRI). Box 5 includes 2 images identified as photo numbers K1083 and K 1084 -- Snow cruiser for Byrd's expedition to Antarctic. Contains images of Richard E. Byrd.

*031.06.01* *Snow Cruiser Collection*
One folder of miscellaneous materials about the Snow Cruiser, primarily a 28-page photocopy of *The Snow Cruiser: The Story of Its Conception and Construction and the Part it Will Play in the Expedition of the United States Antarctic Service* by Alexander Schreiber, Public Relations Counsel, Research

Foundation of Armour Institute of Technology (Project No. 1-89 [?]) Copyright 1939, Armour Research Foundation. Also miscellaneous news clippings.

*1998.270* *Armour Engineer and Alumnus*
Armour Institute of Technology's alumni magazine. An article "Shakedown Cruise" by Francis W. Godwin appears in Vol. 5, No. 2, Dec. 1939, pp. 11-16, 46-47.

*031.07.01* *Irwin Fieldhouse Collection*
Oral interviews of Prof. Irwin Fieldhouse, the first employee of Armour Research Foundation. Primarily his reminiscences of people and projects connected to ARF and IITRI. 3 tapes; ca 96 page transcript. Each tape is ca. 60 minutes long. The Snow Cruiser is discussed on tape 1, pages 11 – 15 of the transcript.
Also contains information on Harold Alfred Vagtborg.

*031.06.05* *Snow Cruiser Collection*
Cancelled stamp cover commemorating the Snow Cruiser's arrival at the South Pole; cancellation dated May 6, 1941, Boston, Mass. Cover shows drawing of Snow Cruiser with plane mounted on top. Markings: on obverse: *The Snow Cruiser Reaches the South Pole/Defense plans halted/ Byrd Antarctic Expedition III/in south polar regions/Lat. 78º 30' S. Long. 163º 30' W./Research Foundation of the Armour Institute of Technology*. On reverse: *Registered No. 6932/Carried from Little America by U. S. S. North Star*.

*031.03.02* *IITRI Collection*
*IITRI: A Fifty Year Portrait, 1936 – 1986* being a 78-page 50th anniversary retrospective history (published 1986). Includes a narrative and timeline account of various ARF projects, including the Snow Cruiser.

*2001.31* *IIT Centennial Collection*
*IIT Campus Roots Quiz 8* being a one-page flyer, dated ca. 1990, with information about the Snow Cruiser's history.

*2002.03* *Snow Cruiser In Popular Mechanics*
Issue of *Popular Mechanics* (October, 1939, Vol. 72, No. ) with cover image (color drawing) and article on the Snow Cruiser explaining how the retractable wheels work. Includes illustrations. Pages 494, 495, and 151A.

*1998.199* *Unprocessed Photos*
Snow Cruiser appears in Box BB and Box RR-1
Eustice appears in Box RR-1
Poulter appears in Box HH and Box RR-2
Vagtborg appears in Box JJ/V and Box TT-1
Byrd appears in Box RR-1
Wade – no known photos

*032.03.06* *Deceased Donor Files- Part 1*
Files on Alfred LeRoy Eustice, and Harold Alfred Vagtborg

*032.07.05* *Marvin Camras Papers*
Information on Thomas C. Poulter and Harold Alfred Vagtborg as colleagues of Camras

*032.07.07* *Marvin Camras Wire Recordings*
Additional information on Thomas C. Poulter

*1998.062* *Willard Hotchkiss Papers*
Additional information on Alfred LeRoy Eustice

*1998.049* *Henry T. Heald President's Papers*
Additional information on Thomas C. Poulter

*1999.031* *Viewbook*
Additional information on Thomas C. Poutler

*031.03.02* *IIT Research Institute Printed Material*
Additional information on Harold Alfred Vagtborg and F. Alton Wade

*1999.042* *Buildings and Grounds Collection*
Additional information on Richard E. Byrd

***News Releases***

1/1940 Harold Vagtborg, Snow Cruiser Lecture at Glen Ellyn College Club
1/1940 Harold Vagtborg, Snow Cruiser Lecture at Woodlawn Women's Club
1/1940 Harold Vagtborg, Snow Cruiser Lecture at Medinah Shrine Lunch Club
2/1940 Harold Vagtborg to speak at Chief Engineers Association of Chicago
2/1940 Harold Vagtborg to Speak at Advertising Men's Post No. 38 American Legion
5/1940 Dr. Thomas C. Poulter at Wisconsin State Bankers Convention
6/1940 Wisconsin State Bankers Convention – Address of Dr. T. C. Poulter
6/1940 Citation for Alfred L. Eustice, President of Economy Fuse and Manufacturing Company
9/1940 With the Snow Cruiser in the Antarctic Dr. T. C. Poulter – Field Museum
10/1940 Dr. T. C. Poulter
11/1940 Dr. T. C. Poulter – Academy of Arts & Sciences, Carnegie Institute
11/1940 Dr. T. C. Poulter – Illinois state Museum, Springfield Illinois
12/1940 Dr. T. C. Poulter – Snow Cruiser Lectures under the Auspices of Washington University
12/1940 Dr. T. C. Poulter – Snow Cruiser Lecture Masonic Consistory, South Bend, Indiana
1/1941 Harold Vagtborg

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| 3/1941 | Harold Vagtborg, South American Tour |
| 5/1941 | Harold Vagtborg, Director of ARF Returns from South American Tour of National Research Council |
| 11/1941 | Harold Vagtborg, director of ARF, Addresses Chicago Woman's Club |
| 3/1942 | Harold Vagtborg announces those to make up team headed for Argentina industrial survey |
| 4/1942 | Harold Vagtborg, director of ARF looks for help in feeding lambs |
| 6/1942 | Harold Vagtborg, director of ARF speaks to Funeral Directors' Association |
| 4/1943 | Harold Vagtborg addresses Peoria section of Society of Automotive Engineers |
| 10/1943 | $10,000 endowment established in memory of Alfred L. Eustice |
| 11/1943 | Alvin Coyle first student to receive Alfred L. Eustice memorial scholarship |
| 2/1944 | Harold Vagtborg speaks to Supervisors Club of Republic Steel Corporation |
| 2/1944 | Harold Vagtborg speaks at meeting of Great Lakes Power Club |
| 4/1944 | Harold Vagtborg to speak to Boy Scouts and Bond Club |
| 5/1944 | Harold Vagtborg and Maurice Holland leave to two week series of inspections and conferences in Mexico |
| 11/1944 | Harold Vagtborg talk on wire recording device well attended |
| 11/1944 | Harold Vagtborg appointed president of Midwest Research Institute |
| 11/1944 | Dr. Jesse Hobson appointed director of ARF to replace Harold Vagtborg |
| 12/1944 | Harold Vagtborg honored at dinner by trustees and senior members of IIT staff |
| 2/1945 | Donald Slager winner of Eustice scholarship |
| 4/1945 | ARF promotes three – Thomas Poulter, Martin Heeren and James Carlisle |
| 7/1945 | Lt. Cmdr Thomas C. Poulter receives annual recognition award for outstanding contribution in scientific and engineering research at ARF |
| 9/1945 | Harold Vagtborg address opening session of conference |
| 4/1948 | Dr. Thomas C. Poulter, designer of "Snow Cruiser," used by Admiral Byrd speaks. |

### *Books*

IIT Research Institute: A Retrospective: Spanning the Years of 1936-2002 written by Laura E. Talley; edited and designed by Genevieve C.D. Zetlan. Available from IIT's Paul V. Galvin Library's circulating collection. Call number T178.I68I68x2002

The Heritage of Illinois Institute of Technology by Irene Macauley. Chicago: Illinois Institute of Technology, IIT Center, 1978. Available from IIT's Paul V. Galvin Library's circulating collection. Call number T171.I4M3X1978. Pages 58 – 61 include information on the Snow Cruiser project.

## Additional External Materials

### *Web Resources*

Information about the Snow Cruiser is widely available online, particularly useful is: http://www.joeld.net/snowcruiser/snowcruiser.html.

Also see articles in *Technology News* (student newspaper). An online index is available at http://archives.iit.edu/technews/. Search Snow Cruiser, Poulter, Eustice, Vagtborg, etc.

***Further Reading***

Check listings under "Byrd" in the 1939 *New York Times Index*.

"Admiral Byrd: Greatest Polar Adventurer Goes to Claim Antarctic" by Charles J. V. Murphy; *Life Magazine*, Oct. 30, 1939, pp 27-31, 34, 37-38.

"Snow Cruiser, A Mobile Base for Antarctica" *Scientific America*, 192:25, Jan. 1940.

"Snow Cruiser to Explore Antarctic" *Popular Mechanics*, 72:494-50+; October 1939.

"Capt. Wade's log (daily journal) of the Snow Cruiser's performance in Antarctica is in the Library of Congress." According to Prof. Fieldhouse.

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