

History of the BNL Site

Tim Green

Environmental Protection Division

April 10, 2014

BROOKHAVEN
NATIONAL LABORATORY

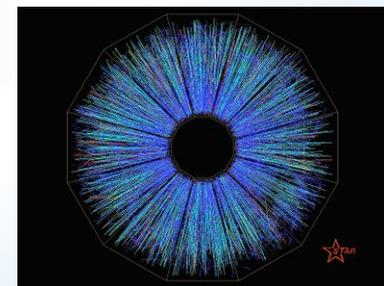
a passion for discovery



Wampmissic to Big Science

Cultural Resources at BNL

Historical Overview & Scientific Features



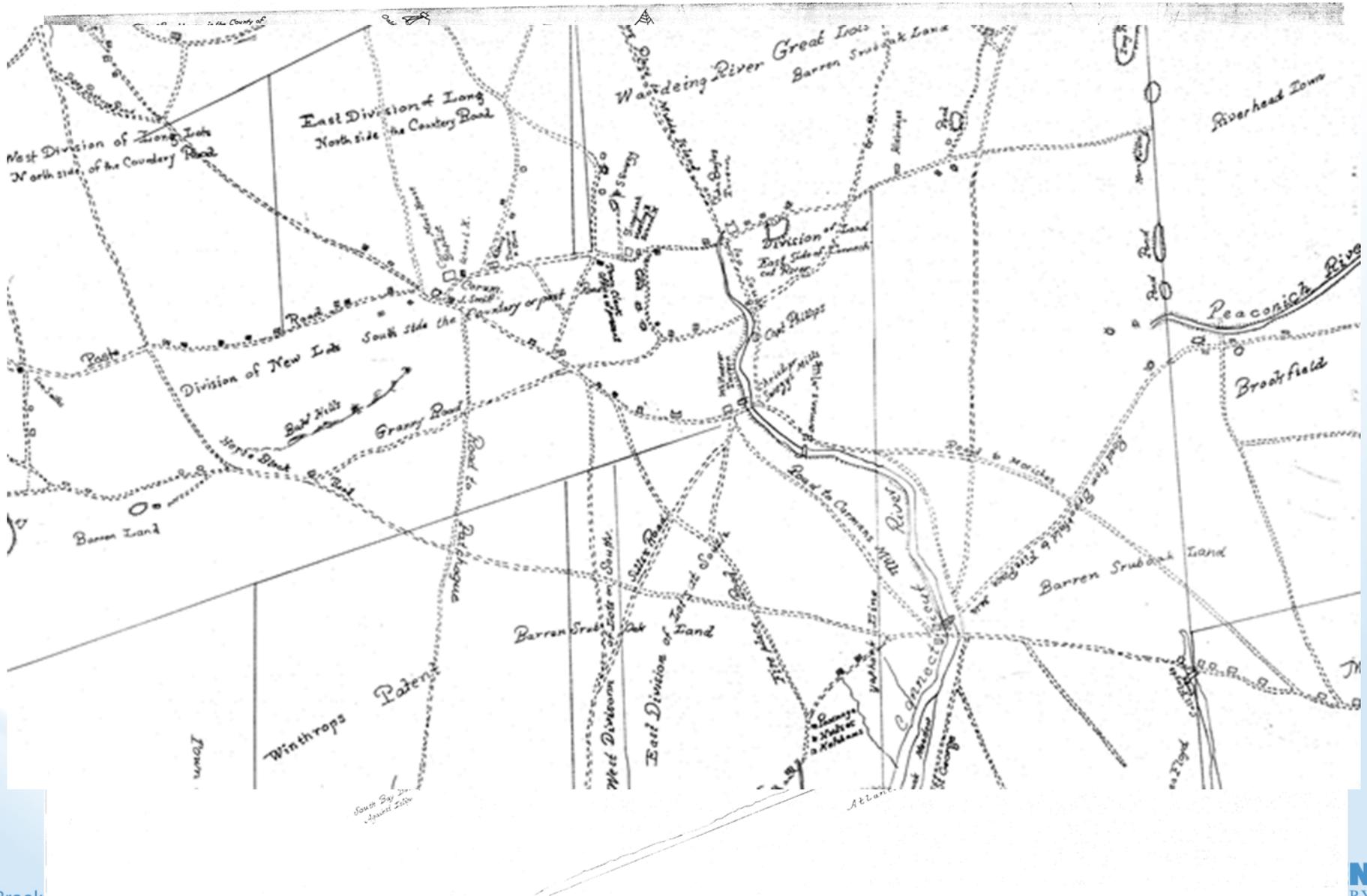
Location

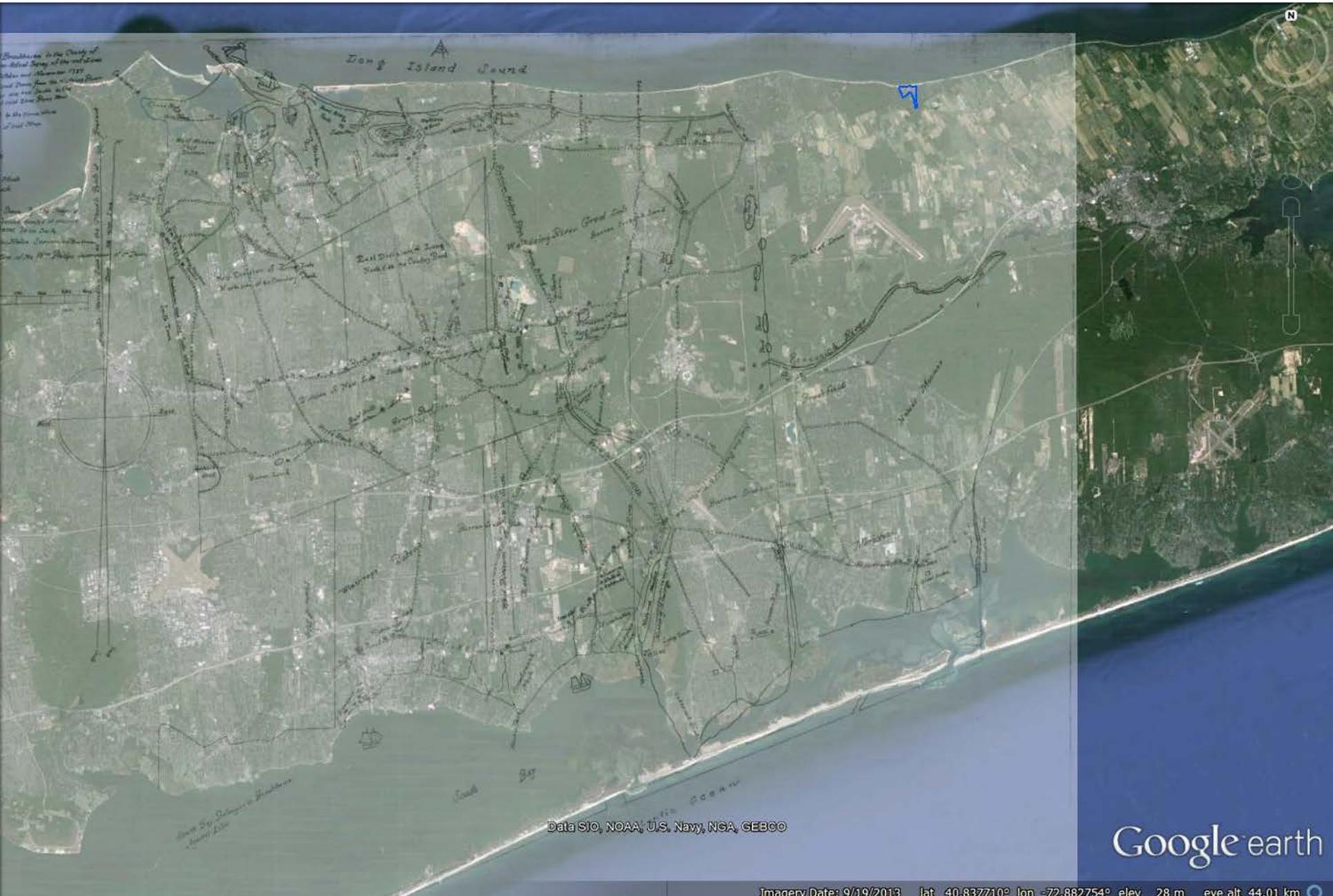


BNL Site – Historical Overview

- **Pre–1900: Pine-Oak forest**
 - Transient Native American activity
 - Local cordwood industry
- **1917–1921: World War I Camp Upton**
 - Induction & Training Camp
- **1930s: Civilian Conservation Corps**
 - Upton National Forest
- **1940–1946: World War II Camp Upton**
 - Induction Center, then Convalescence & Rehabilitation
- **1947–present: Brookhaven National Laboratory**
 - Large science facilities (reactors, accelerators, etc.)

Hulse Map 1742 - 1797





Brookhaven is the County of
the Island Survey of the resolutions
Articles and Ordinances 1777
and from then on the Island
is and was always to be
and shall remain the same
to the same which
I seal this

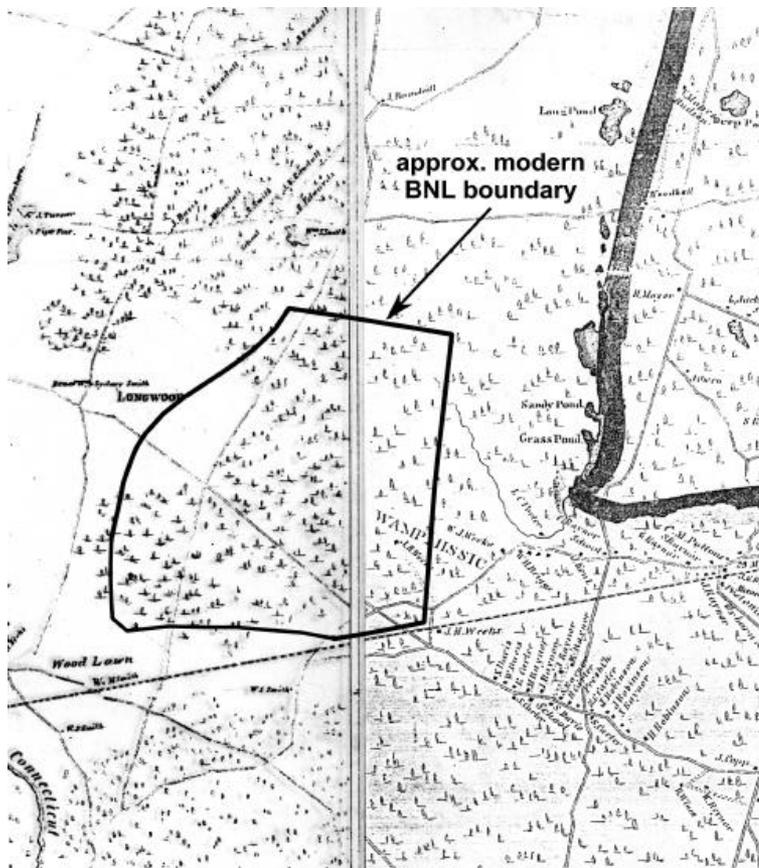
Zong Island Sound

Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Google earth

Imagery Date: 9/19/2013 lat 40.837710° lon -72.882754° elev 28 m eye alt 44.01 km

Wampmissic



1858 Chance Map of Suffolk
County, ILIA, October 2001



Photos courtesy of Suffolk County
Historical Society

BNL Cultural Resource Features

Pre-1900 pine-oak forest: Two historic sites



Stone Foundation



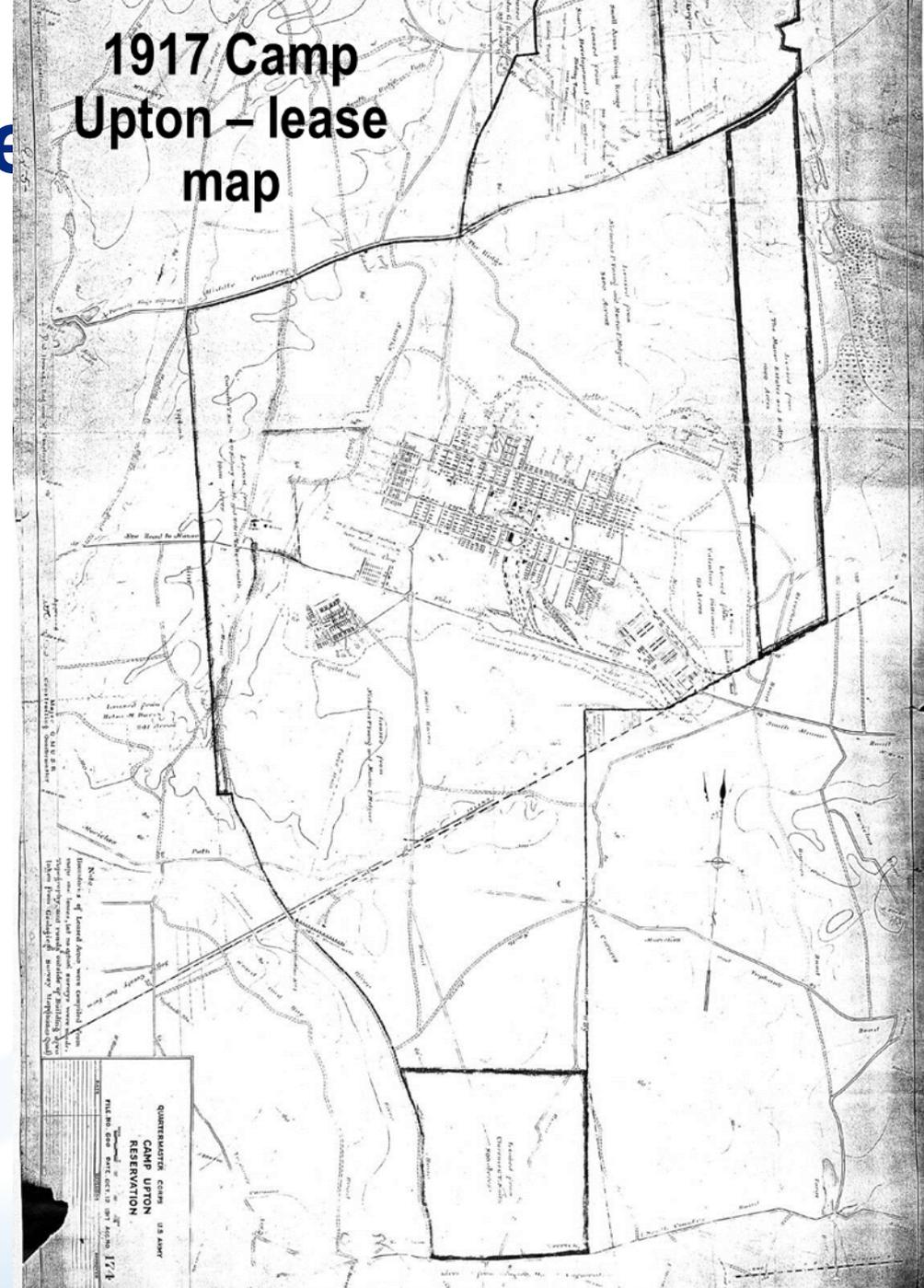
Locust Fence Posts



Curved Stone Wall



Brickwork



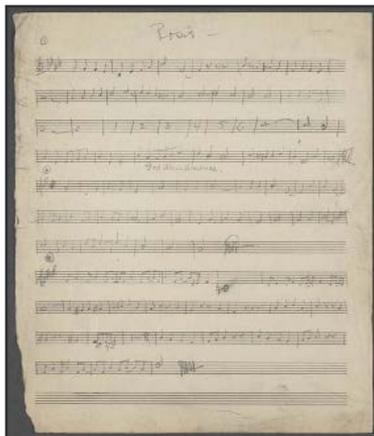


Attachment 1. Map of World War I Camp Upton

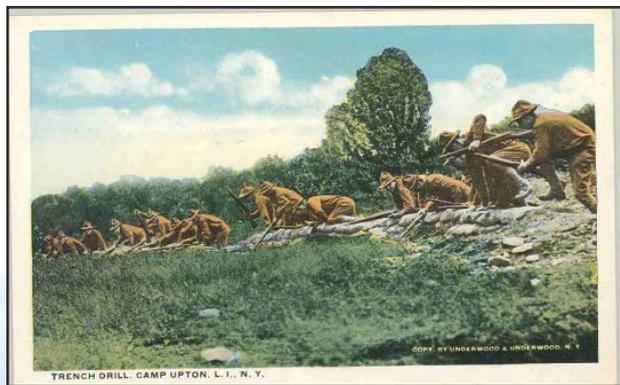
BNL Cultural Resources and Features – WW I



Trenches



Irving Berlin



Over the Top



Foundation Remnants

1921 - The War to end all wars was history

SUFFOLK COUNTY HISTORICAL SOCIETY
RIVERHEAD, N. Y. Catalogue No. 867

KEEP YOUR CATALOGUES FOR USE AT THE SALE

Public Auction Sale

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Smith & Jaffe, Philip Smith, Auctioneer
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at 11:30 A. M. each day (rain or shine.)

Inspection: Commencing August 8th and continuing daily to time of sale, from 9 a.m. to 5 p.m. each day

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SUFFOLK COUNTY HISTORICAL SOCIETY
RIVERHEAD, N. Y.

INFORMATION CAMP UPTON

1. READ YOUR TERMS OF SALE IN CATALOGUE CAREFULLY.
2. Refer to map at back of catalogue.
3. Camp Upton has been divided into eleven sections described as follows:

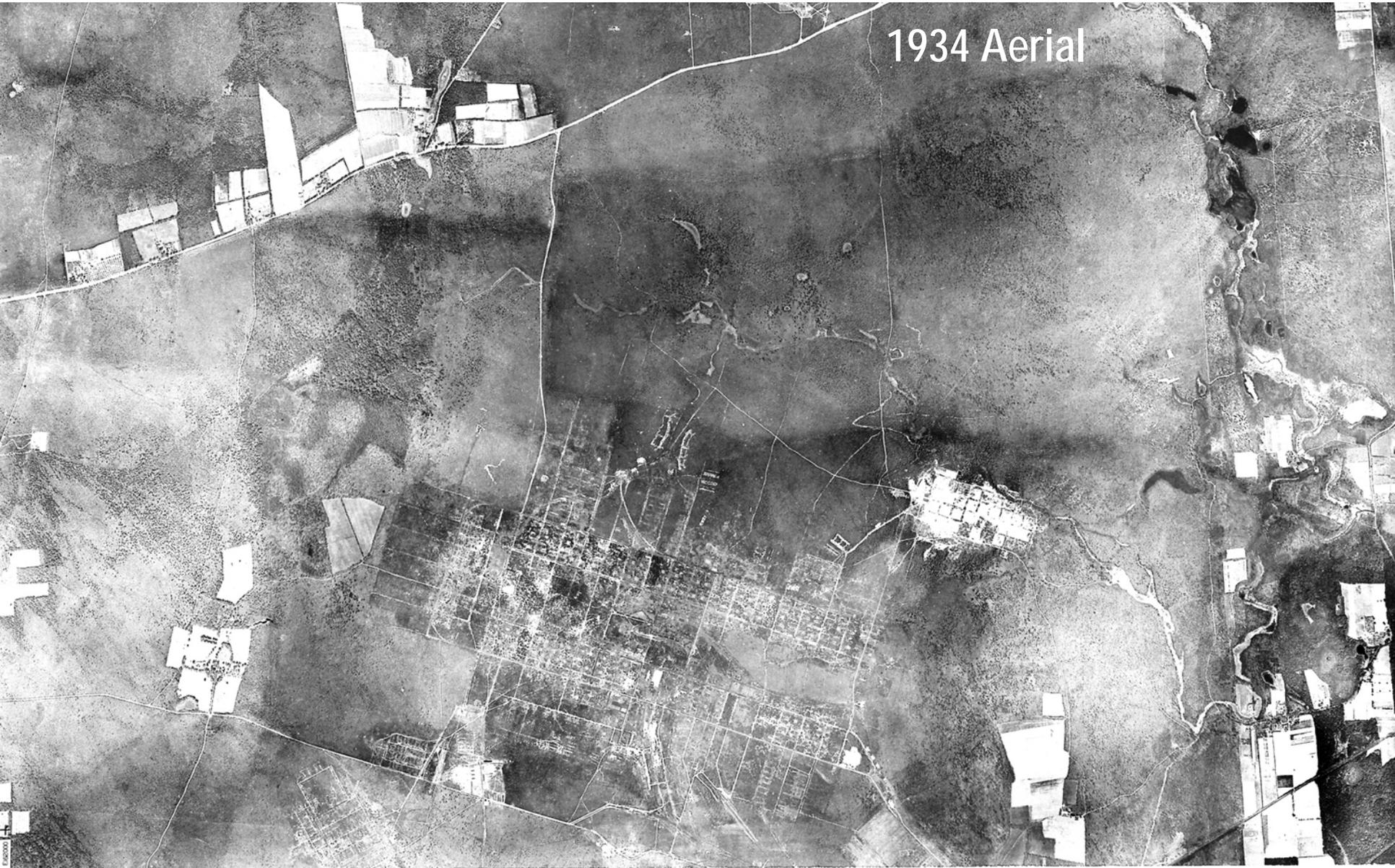
SECTION	LOCATION
A Base Hospital	South of Civilian Camp on South Street.
B Water Tanks, Pumping Station, Civilian Camp, Civilian Laborers' Quarters	16th Street to 1st Street to adjoining Base Hospital.
C Utility Barracks and Tent City	South of 2nd Ave., Upton Boulevard to 16th Street .
D Warehouses and Stables	South of 1st Street and 2nd Ave. to Upton Boulevard.
E Remount Section	South of 1st St. and 2nd Ave.
EE Sub-Station	
F First Street and 2nd Ave. to 17th St., 2nd Ave. to 3rd Ave.	
G Brigade or Presidential Section	2nd Ave. and 17th St. to 19th St. to 5th Ave., 17th St. to 19th St., including 3rd and 4th Aves., Washington, Jefferson, Lincoln, Grant and McKinley Aves.
H Fourth Ave. and 17th St. to 4th Ave. and 1st St. north to end of Camp, including Tower Hill, Pumping Station, etc.	
J Sewerage Disposal	
K Rifle Range	On Middle Island Road.
L Yaphank Pumping Station	Yaphank.

Camp Upton after 1921



SHIP CAMP UPTON L.I. N.Y.

The Great Depression and CCC



Civilian Conservation Corps - 1930s

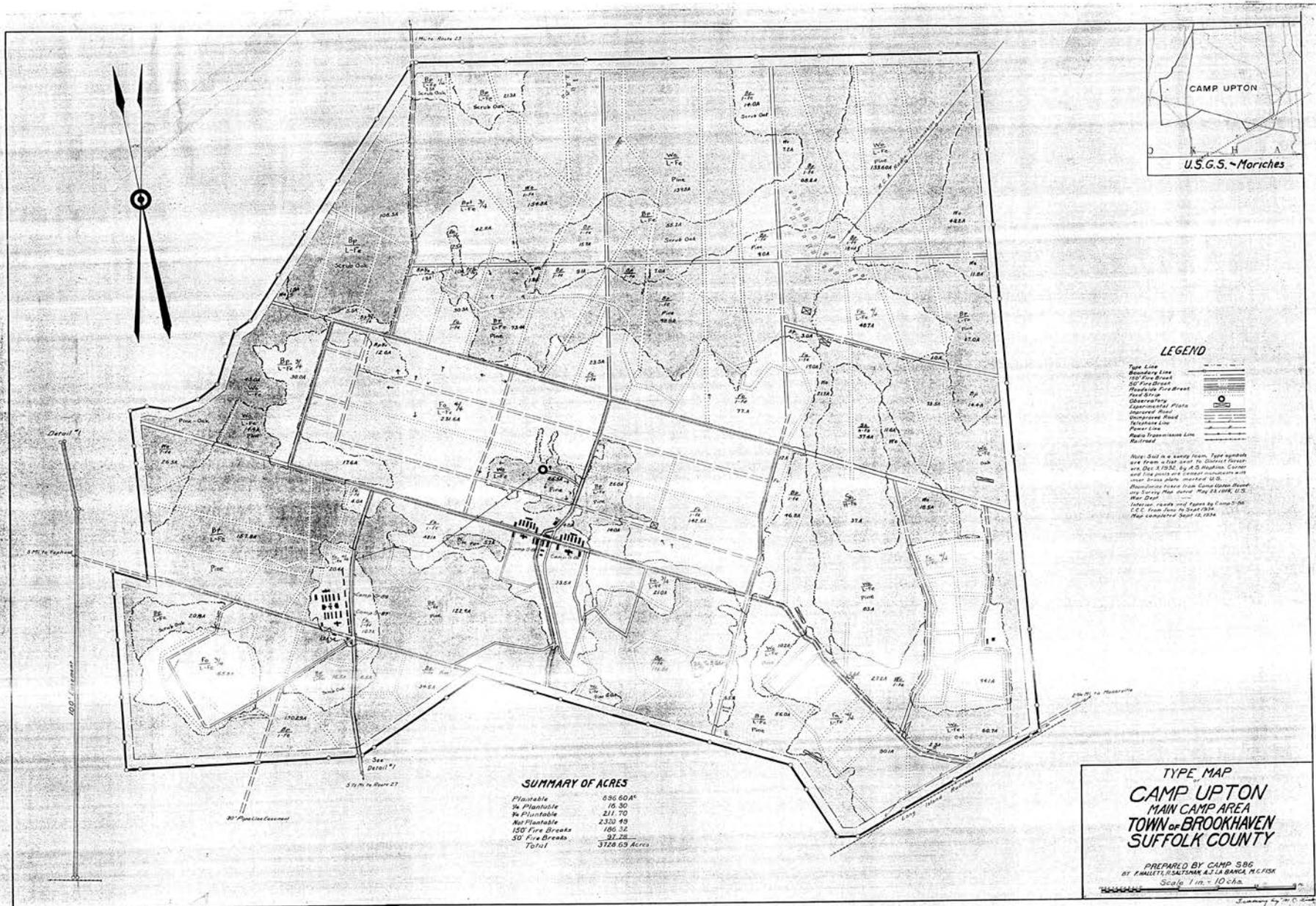


Building 30 – 1934



Building 30 – 2005

Upton National Forest



World War II – Camp Upton Revisited

- 1941 – 1944 Induction Center
- 1944 – 1947 Hospital, R & R Facility



Building 120 – 2005



Barracks



Camp HQ



Building 50 – 2005



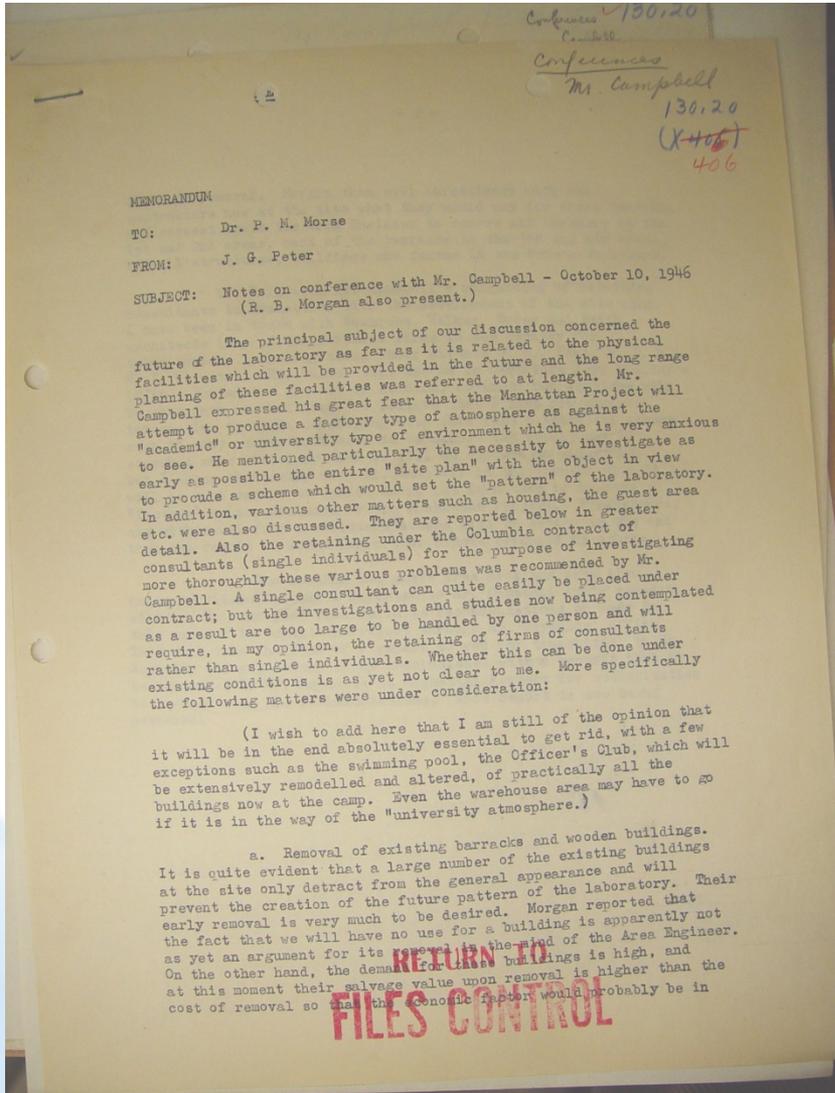
1994

Imagery Date: 9/19/2013 lat 40.869000° lon -72.873252° elev 25 m eye alt 7.64 km

Google earth



1947 Camp Upton becomes Brookhaven National Laboratory



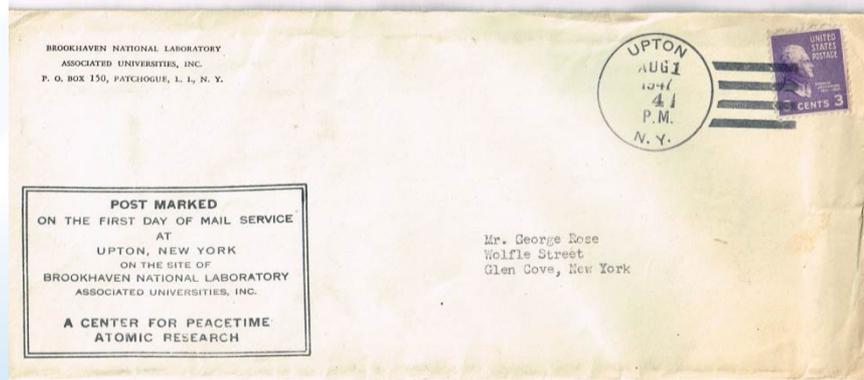
Brookhaven Science Associates



1947 BNL Phonebook



Vehicle ID Tag





BNL – Cultural and Historic Resources



Graphite Reactor



High Flux Beam Reactor



Gamma Forest



Gamma Forest Aerial



Bubble Chamber



BGR Fuel



Cosmotron Magnet

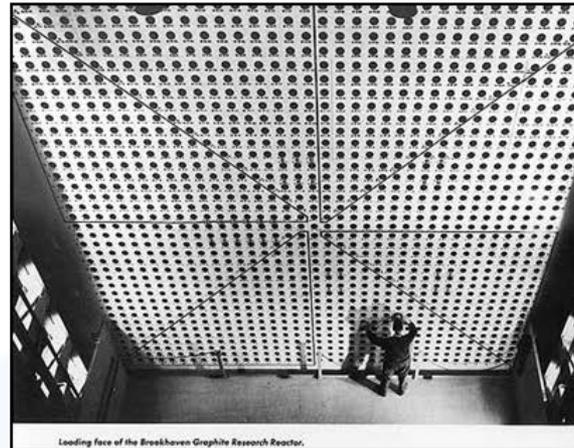
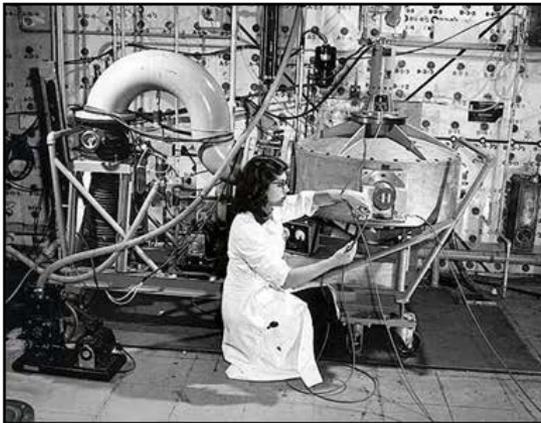
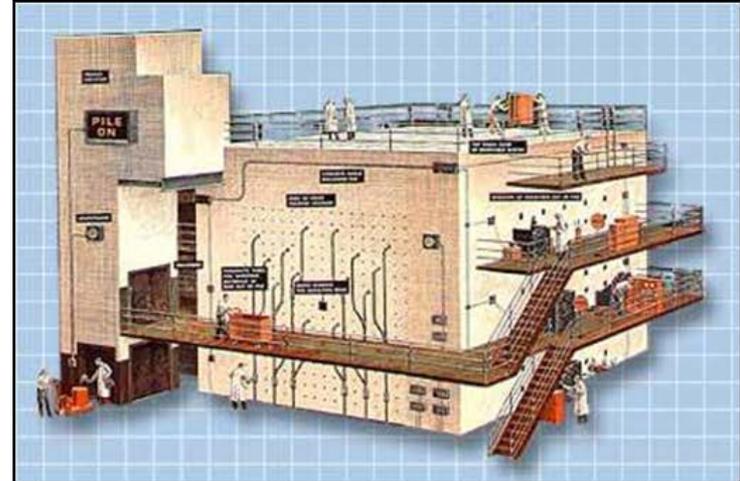


Berkner Hall

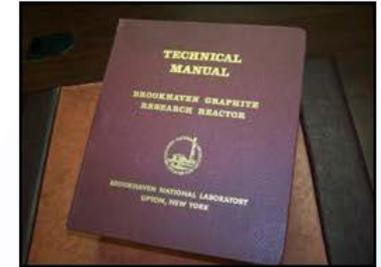
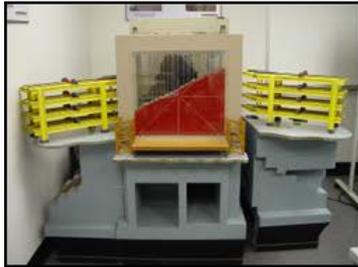
Equipment Artifacts & Scale Models

Architecturally Significant

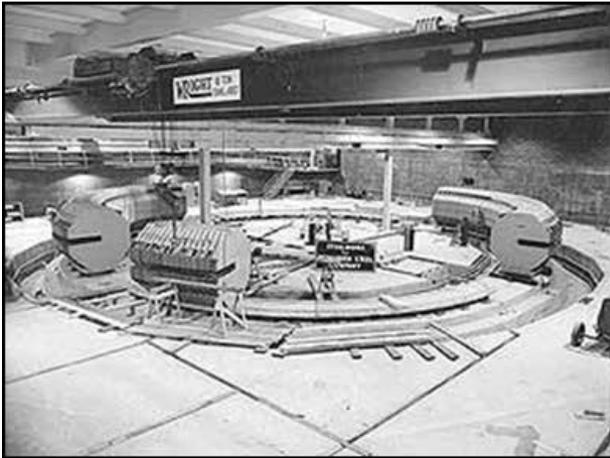
Brookhaven Graphite Research Reactor - BGRR



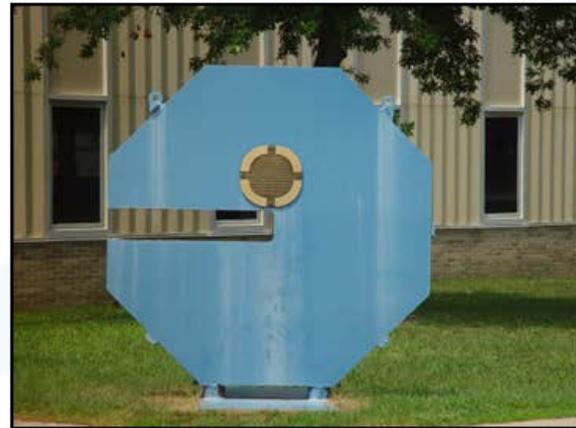
BGRR – Historic Resources



Cosmotron

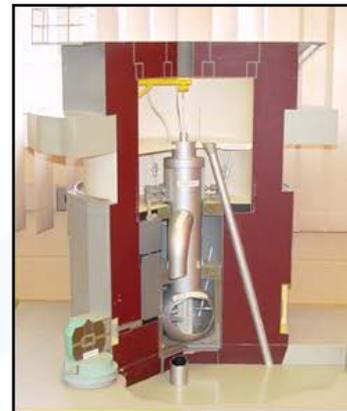


Cosmotron Magnet Model



Cosmotron 'C' Magnet

High Flux Beam Reactor - HFBR



Nobel Prizes



T.D. Lee Doodle Pad
(1957 Nobel)



7-ft Bubble
Chamber

Cosmotron

- 1957, T. D. Lee/C.N. Yang – Parity Violation

AGS

- 1976, Samuel C.C. Ting – J/psi Particle
- 1980, James W. Cronin/Val L. Fitch – CP Violation
- 1988, Leon Lederman, Melvin Schwartz, Jack Steinberger – Muon-Neutrino



ssociates



31-inch Bubble
Chamber



Bubble Chamber
Glass Window

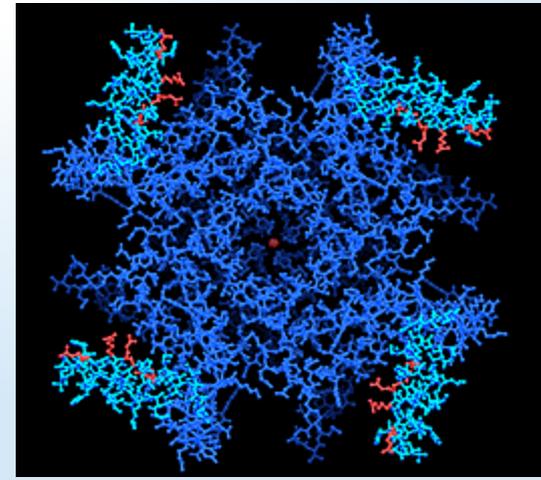
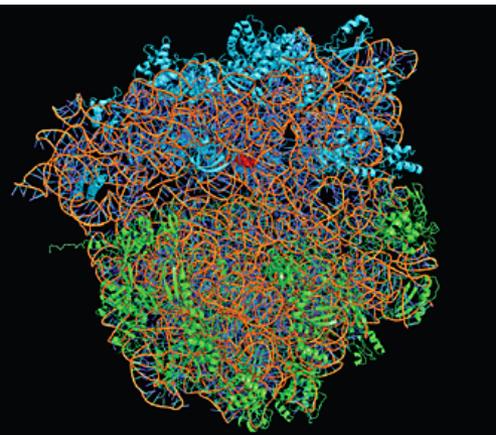
Nobel Prizes

South Dakota

- 2002, Raymond Davis, Jr. – Cosmic Neutrinos

NSLS

- 2003, Roderick MacKinnon – Chemistry of the Cell, ion channels
- 2009, Thomas A. Steitz, Venkatraman Ramakrishnan – the Ribosome



Architecturally Significant Buildings

- Berkner Hall
 - Designed by Max O. Urbahn
 - Mid-1960s Expressionist architecture



Berkner Hall – Building 488

- Chemistry Building
 - Designed by Marcel Breuer
 - International Style



Chemistry Building 555

What will the future hold for BNL?

