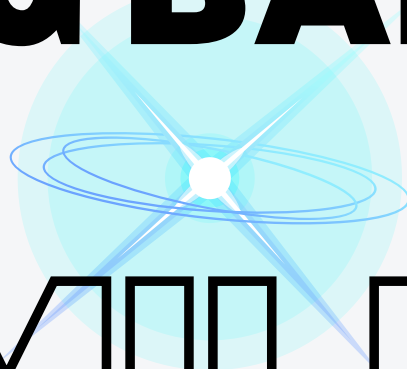


SHORE A.C.

BIG BANG



MILE

& SCIENCE FESTIVAL



SATURDAY, JULY 15, 2023

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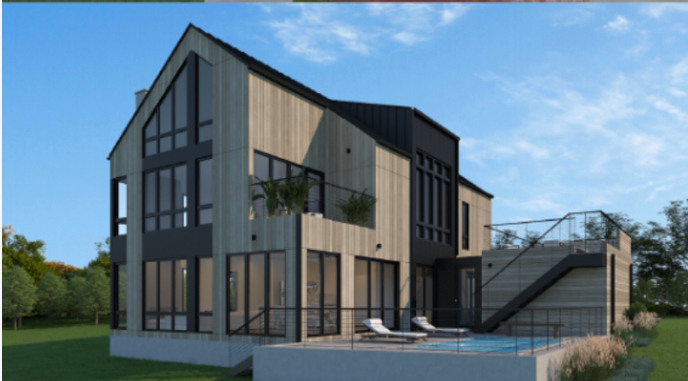
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TABLE OF CONTENTS

WELCOME TO THE 3RD ANNUAL BIG BANG MILE.....	4
THE STORY BEHIND THE BIG BANG MILE	5
SCHEDULE OF EVENTS: BIG BANG MILE.....	6
BIG BANG MILE COURSE MAP	7
BIG BANG MILE COURSE RECORDS	8
IN MEMORY OF RICHARD HILL, 1936-2022.....	9
SCHEDULE OF EVENTS: SCIENCE FESTIVAL	10
SCIENCE FESTIVAL BOOTHS.....	11
SCIENCE FESTIVAL MAP	12
SCIENCE FESTIVAL PRESENTERS.....	13
UPCOMING EVENTS	14
GOODLUCK TO OUR PARTICIPANTS!	15
THE SHORE AC THANKS OUR SPONSORS!	16

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SCIENCE FESTIVAL



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SHORE ATHLETIC CLUB OF NEW JERSEY

"Promoting the Olympic Sport of Track and Field Since 1934"

WELCOME TO THE THIRD ANNUAL BIG BANG MILE AND SCIENCE FESTIVAL

Shore Athletic Club is delighted to welcome you to its third annual Big Bang Mile and Science Festival. We hope you enjoy what our event offers: a flat mile course with just one very wide turn, professional timing, competitive heats, fun heats and the nearby amenities of Bell Works.

Why the name "Big Bang Mile"? We celebrate the discovery of the Big Bang not far from Bell Works. In 1964, two Bell Laboratories radio astronomers discovered more microwave radiation coming from the sky than they could at first explain. Consultation with Princeton University scientists led to the explanation: they were looking at leftover light (with highly red-shifted wavelengths) generated by the early universe 13.8 billion years ago!

To honor that discovery, Shore Athletic Club created a "mash-up." We combined a running race with a science festival. After the mile races are finished, runners and others can enjoy the science festival. You can listen to talks and visit booths on matters of scientific interest, and even admire award-winning high school science projects.

Runners will be vying for some special prizes. The top three USATF-NJ male and female winners overall, plus the top three USATF-NJ masters male and female age graded winners, will receive high-quality running shoes from 361. The top competitors from outside USATF-NJ will also be eligible for cash prizes and time bonuses. We will also be presenting stylized tote bags to winners in 5-year age groups.

We hope that you enjoy the Big Bang Mile and Science Festival!

Shore AC Club President Walter MacGowan
1401 3rd Avenue
Spring Lake, NJ 07762

THE STORY BEHIND THE BIG BANG MILE



The Bell Works building was once a primary location for Bell Laboratories. “Bell Labs” attracted top-notch scientists to conduct basic research that might advance telephony. Two such scientists, Arno Penzias and Robert Wilson, studied radio signals from space in support of the Telstar project. In 1964, to their surprise, they observed a background noise coming from every direction in the sky. Wherever they pointed their radio telescope, they measured the same frequency and strength of microwave radiation.

Puzzled, Penzias and Wilson conferred with colleagues. Princeton University astronomer Robert Dicke revealed they had found evidence for the Big Bang. This is a theory that the universe started with an explosion 13.8 billion years ago. For their important contribution to science, Penzias and Wilson were awarded the Nobel Prize for Physics in 1978.

The radio telescope used by Penzias and Wilson still stands today. It is located on top of Crawford Hill, about 2 miles northwest of the Bell Works facility. A nearby plaque explains its significance. It is worth a visit.

Shore Athletic Club dedicates the Big Bang Mile Race to scientists everywhere. We hope that runners draw inspiration from this story to learn more about STEM(Science, Technology, Engineering and Mathematics) and perhaps even pursue a STEM career. Aim high!

SCHEDULE OF EVENTS: THE BIG BANG MILE

7:30 AM - Race Packet Pickup Opens

8:30 AM - Community & Youth (12 and under) Mile

9:00 AM -  Masters Women's 50+ Mile

9:20 AM -  **Richard Hill Memorial Masters Men's 60+ Mile**

9:40 AM -  Masters Women's 40-49 Mile

9:55 AM -  Masters Men's 50-59 Mile


10:10 AM -  Masters Men's 40-49 Mile

10:25 AM - **Coach Jim Schlentz High & Middle School
Mile (ages 12-18)**

10:40 AM - Party Mile (Bar, Gym, Restaurant teams etc.)

11:00 AM -  Women's Open Mile

11:15 AM -  Men's Open Mile

 *Designates a USATF-NJ Team Championship "race within a race." Non-USATF runners may also participate in these heats

- HS/MS heat name is courtesy of a donation from Susan and Scott Linnell.

Awards Ceremonies:

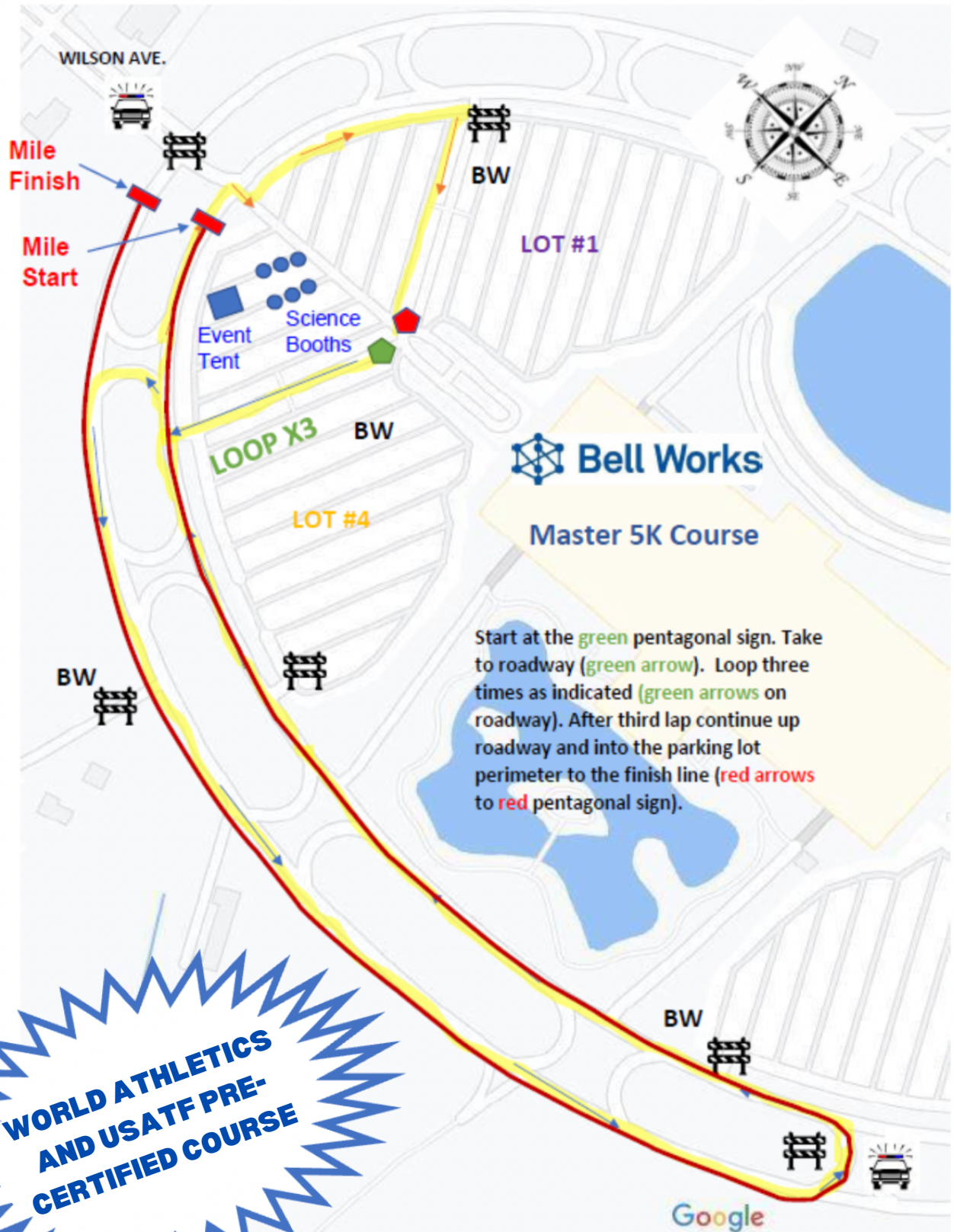
10:50 AM - Awards for High & Middle School Mile

11:30 AM - Awards for Party Mile

- Awards for Masters Women and Masters Men

11:50 AM - Awards for Open Women and Open Men

THE BIG BANG MILE COURSE MAP



THE BIG BANG MILE EVENT RECORDS

Category	Name	Age	Hometown	Time	Year
Men:	John Walker	24	Conshohocken, PA	4:13:50	2022
Women:	Danielle Barnes	33	West Olive, MI	5:06:44	2022
Men:					
14U	Cleat Oakes	13	Point Pleasant, NJ	5:42.41	2021
15-19	Kyle Spector	19	Englishtown, NJ	4:47.72	2021
20-24	John Walker	24	Conshohocken, PA	4:13:50	2022
25-29	Bradley Kilheaney	26	North Brunswick, NJ	4:27.19	2022
30-34	Tayron Reyes	31	Union City, NJ	4:22.91	2021
35-39	Hayrol Alvares	35	Passaic, NJ	4:26.36	2021
40-44	Dickson Mercer	41	Takoma Park, MD	4:43.26	2022
45-49	Mark Williams	48	Columbia, NJ	4:42.50	2021
50-54	Gary Rosenberg	50	Morristown, NJ	4:58.98	2021
55-59	Brian Crowley	56	Hillsborough, NJ	4:58.97	2021
60-64	Nat Larson	60	Amherst, MA	4:48.97	2022 *
65-69	Kevin Dollard	65	Hopewell Junction, NY	5:49.40	2021
70-74	John Kilduff	70	Falls Church, VA	6:21.90	2022
75-79	Ezequiel Garcia	75	Newark, NJ	6:49.53	2021
80-84	Tony Fiore	80	Summit, NJ	9:03.55	2021
85+	Arch Seamans	89	Rockaway, NJ	15:29.58	2021

* Ratified American Age Group Record

Women:					
14U	Liliah Gordon	14	Chesterfield, NJ	5:39.95	2021
15-19	Megan Devanny	16	Matawan, NJ	5:52.98	2022
20-24	Jane Mallach	20	Rumson, NJ	5:29.38	2022
25-29	Nicolette Mateescu	28	Kendall Park, NJ	5:11.32	2022
30-34	Danielle Barnes	33	West Olive, MI	5:06:44	2022
35-39	Courtney Decker	39	Avon By The Sea, NJ	5:11.45	2021
40-44	Courtney Decker	40	Avon By The Sea, NJ	5:10.16	2022
45-49	Sara Giroto	46	Wynnewood, PA	5:23.31	2022
50-54	Joan Totaro	50	Toms River, NJ	5:46.40	2022
55-59	Suzanne La Burt	58	Greenwood Lake, NY	5:43.69	2021
60-64	Betty Otarola	62	West Orange, NJ	6:45.81	2022
65-69	Nora Cary	67	Morristown, NJ	6:38.05	2022
70-74	Joann Coffee	70	Somerset, NJ	7:40.75	2021
75-79	Panseluta Geer	75	Hazlet, NJ	12:31.17	2022
80-84					
85+					

In Loving Memory of Richard Hill, 1936 - 2022

An avid and much-loved road and cross-country runner



Richard "Dick" Hill will long be remembered by his teammates at Shore Athletic Club and many friends in the running community for his bright smile, generosity and tremendous running prowess. Having competed in track and cross country while an undergraduate at Rutgers University (Class of 1957), he resumed the sport with gusto as a masters runner. He competed at local, state and national levels for Shore A.C. starting in 1986, winning many accolades along the way. Dick pursued the sport well into his 70's. He imparted his enthusiasm for running on his children and grandchildren. The Hill name has highlighted leaderboards at many a track meet and road race in the Jersey Shore area over the past 30 years. Dick left us in January of 2022 for even better running trails in heaven. The Hill Family dedicates the Masters Men's Age 60+ Mile of this year's Big Bang Mile and Science Festival to his memory.

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SCHEDULE OF EVENTS: SCIENCE FESTIVAL

1:00 PM - Welcoming Remarks

Scott Linnell

1:10 PM - Visit Booths & HS Exhibits

**1:45 PM - John Saarman Presentation on
Cosmology**

**Fred Carl,
Princeton University &
Simons Observatory**

2:15 PM - Visit Booths & HS Exhibits

3:00 PM - Talk: Fusion Energy

**Dr. Charles Swanson
Princeton Stellarators**

3:30 PM - Visit Booths

4:00 PM - Conclusion of the Science Festival

Event Tent Presentation Details

Talks:

- **1:45 PM - The John Saarmann Presentation on Cosmology: "Cutting Edge Tools for Astronomy". Presented by: Mr. Fred Carl of Princeton University and The Simons Observatory.**
- **3:00 PM - Presentation on nuclear fusion energy: "The Past, Present and Future of Fusion Energy". Presented by: Dr. Charles Swanson of Princeton Stellarators, Inc.**

High School Science Projects:

- **Nithilan Rengapragash from Lenape HS**
 - **Project: LifeSaver**
- **Ishani Singh from High Technology**
 - **Project: Improving Sign Language Translation To Text Using Machine Learning**
- **Kriti Srivastava from High Technology**
 - **Project: A novel system to improve upon the validity and efficiency of the college admissions process using blockchain**
- **Ananya Vuppala form Marine Academy of Science and Technology**
 - **Project: Using Machine Learning and Metabolomics to Identify Diagnosis Patterns in Multiple Sclerosis Patients**

SCIENCE FESTIVAL BOOTHS

#1 - FUSION ENERGY

- **PAST, PRESENT AND FUTURE OF FUSION ENERGY**
- **PRESENTED BY: DR. CHARLES SWANSON OF PRINCETON STELLARATORS, INC.**

#2 - ELECTRONICS

- **INTEGRATED CIRCUIT MANUFACTURING**
- **PRESENTED BY: MR. ERIC WESTERWICK**

#3 - ASTRONOMY

- **CUTTING EDGE TOOLS FOR ASTRONOMY**
- **PRESENTED BY: MR. FRED CARL, PRINCETON UNIVERSITY AND THE SIMONS OBSERVATORY**

#4 - ARTIFICIAL INTELLIGENCE

- **ARTIFICIAL INTELLIGENCE IN ACCOUNTING AND AUDIT**
- **PRESENTED BY: PROFESSOR MIKLOS VASARHELYI, RUTGERS UNIVERSITY**

#5 - ECONOMICS

- **GREEN ENERGY AND SUPPLY CHAIN SUSTAINABILITY**
- **PRESENTED BY: PROFESSOR MARK RODGERS, RUTGERS UNIVERSITY**

#7 - MEDICAL IMAGING

- **MAGNETIC RESONANCE IMAGING**
- **PRESENTED BY: HOLMDEL IMAGING**

#6 - ZOOLOGY

- **KIMS CRITTER'S**
- **PRESENTED BY: MS. KIMBERLY ANICITO**

#8 - HORN PRESERVATION

- **HOLMDEL HORN ANTENNA PRESERVATION**
- **PRESENTED BY: CITIZENS FOR INFORMED LAND USE (CILU)**

SCIENCE FESTIVAL MAP



- Science Booths**
- 1: Fusion Energy
 - 2: Electronics
 - 3: Astronomy
 - 4: Artificial Intelligence
 - 5: Energy Economics
 - 6: Medical Imaging
 - 7: Zoology
 - 8: Horn Preservation

- Vendor Tables**
- A. Irie Vibes
 - B. Shore AC
 - C. 361
 - D. AMTA Massage
 - E. Holmdel Imaging

SCIENCE FESTIVAL PRESENTERS

1:45 PM - The John Saarmann Presentation on Cosmology: "Cutting Edge Tools for Astronomy". Presented by: Mr. Fred Carl of Princeton University and The Simons Observatory.



Mr. Fred M. Carl

Mr. Carl is a staff scientist in the Physics Department at Princeton University. He is also a member of The Simons Observatory, a collaborative effort among more than 40 institutions to construct a series of telescopes in Chile for observing the remnants of the big bang.

A history buff and long-time resident of the Jersey shore, Fred has led a remarkable 30-year project to preserve and restore the Camp Evans military installation in Wall Township. He also spearheaded creation of the InfoAge Science History Center at Camp Evans, a museum that is open to the public three days per

week. Fred has received special recognition for his tireless efforts, including a 2006 Russel Berrie Award for Making a Difference and the 2018 Sarah P. Fiske Legacy Award for lifetime achievement from PreservationNJ.

3:00 PM - Presentation on nuclear fusion energy: "The Past, Present and Future of Fusion Energy". Presented by: Dr. Charles Swanson of Princeton Stellarators, Inc.



Dr. Charles Swanson

Dr. Swanson is the manager of stellarator systems at Princeton Stellarators, Inc., a private fusion energy company. He was an associate research physicist at the Princeton Plasma Physics Laboratory and chief scientist of Princeton Satellite Systems. Dr. Swanson has broad fusion experience, having worked with many of the plasma physics phenomena and reactor systems required to design a stellarator-based fusion power plant.

SHORE AC UPCOMING EVENTS

All Comers Track Series - Saturday, July, 22nd, 2023

Ranney School - 235 Hope Road, Tinton Falls, NJ



Lake Takanassee Summer Series - Monday Nights - July 17th and 24th, August 7th and 21st, 2023

Lake Takanassee, 800 Ocean Avenue, Long Branch, NJ

Kids 1500m run, Adult 5k run



Asbury Park Sheehan Classic - Saturday, August 12th, 2023

Bradley Park, Asbury Park, NJ

Adult 5k run, kiddie dashes



Youth Cross Country Fall Series - Sundays, September 17th and 24th, October 8th, 15th, 22nd, and 29th, 2023

Holmdel Park and Ocean County Park

800m, 2k, 3k, 4k, and 5k



Adult Cross Country Series - Saturdays, September 30th, October 7th, 14th, 21st, 28th and November 4th, 2023

Big Brook Park, Wolf Hill Park, Holmdel Park, Tatum Park, Thompson Park and Huber Woods Park

5k



Jersey Shore Half Marathon + 2 Mile Race - Sunday, October 1st, 2023

Gateway National Recreation Area, Sandy Hook, NJ (Lot E)



Bill Bruno Alumni Cross Country Run - Saturday, November 11th, 2023

Holmdel Park, 44 Longstreet Road, Holmdel, NJ 07733

5k



60th Annual Asbury Park Polar Bear Races - Saturday, December 20, 2023

Convention Hall - 1300 Ocean Avenue Asbury Park, NJ 07712

1 mile, 5k run & walk



GOOD LUCK TO OUR PARTICIPANTS

Good luck to Shore AC and ALL runners in the Big Bang Mile! Many thanks Bell Works, sponsors and presenters.

-- Scott Linnell

It's my pleasure to join my Clifton Road Runners Club Team and the BigBangMileFamily for the VERY FIRST TIME!!! To herald fitness, camaraderie, love, peace via Running is a beautiful thing. Kudos to One and All who work for, support, are fans, and participants of this USATF BigBangMile event!!! -- Marilyn Pasno

We wish all the athletes and student-athletes much success at today's Big Bang Mile! -NXT Level Holdings, authors of & "The N.I.L. Playbook"

Good luck today! We invite you to join us on Thursday August 31 at CBA in Lincroft for another great 1 mile event - The Monmouth Mile! See more at www.monmouthmile.com.



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✉ holmdelvetclicin@gmail.com
🌐 www.holmdelveterinaryclinic.com

Luciano Sturla DVM

Hours of Operation

Monday 10am - 7pm	Thursday 10am - 7pm
Tuesday 9am - 6pm	Friday 9am - 6pm
Wednesday 9am - 3pm	Saturday Temporarily Closed
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John Saarman
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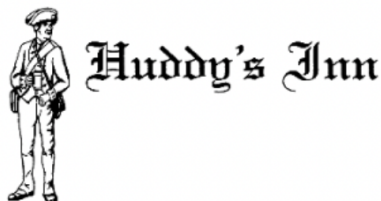
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