



THE CHINA LAKER

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President's Message

by Laura Hickle, hicklelh@gmail.com

Please note corrected email address

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We had a great Dinner Auction on Saturday, May 11, 2019. See inside for pictures. This year all proceeds (\$70,000+) will go towards the Phase 2 building project. It is critical that we create more display space in a larger building on site to tell more of the China Lake Story. A preliminary 3-D model of our proposed site and building layout is now located in the conference room at 130 E. Las Flores Ave. Stop by and check it out.



We apologize for the slow checkout at the auction this year. More and better printers will solve this problem next year. ALL DINNER AUCTION ATTENDEES may receive a one time 20% DISCOUNT IN THE GIFT SHOP during the month of June as our thanks for your patience and continued support of the China Lake Museum.



25 years strong

You can find us on:

Facebook - [@ChinaLakeMuseum](https://www.facebook.com/ChinaLakeMuseum)

Instagram - [@chinalakemuseum](https://www.instagram.com/chinalakemuseum)

Website - www.chinalakemuseum.org

130 E. Las Flores Ave
Ridgecrest, CA 93555
www.chinalakemuseum.org
(760) 677-2866

Fred Weals, a longtime supporter of CLMF, passed away at the age of 102 on Monday, May 20th. The CLMF Family sends our condolences to his family.

JUNE LECTURE SERIES– Dr. Eric Haseltine, PhD

“The Spy in Moscow Station”

Dr. Haseltine’s new book tells the thrilling, true story of the race to find a leak in the US Embassy in Moscow – before more American assets are rounded up and killed.

Eric graduated in 1969 from Burroughs HS, has a PhD in Neuroscience and served as a Director of Research at NSA in response to 9-11. He later served as Associate Director of National Intelligence in charge of Science and Technology for the U.S. intelligence community. A TED talk speaker on the future of science and holder of over 70 patents. Dr. Haseltine’s presentation is not to be missed! Copies of his books will be available for purchase.

Monday June 10, 2019 at 7 PM

Admission Free, donations appreciated, reservation required, seating limited

Springhill Suites, “China Lake” Conference Room
113 E. Sydnor Ave., Ridgecrest, CA 93555

To RSVP - call the China Lake Museum at 760-677-2866 or
by email to: chinalakemuseum@mediacombb.net or
chinalakemuseumstoremanager@gmail.com

Thanks to Dan Spurgeon and the Spring Hills Suites staff for providing the
China Lake Conference Room

2019 Dinner Auction Fun and Treasures

LIVE AUCTION 75th Anniversary Sculpture by John Caufield.

Excited Folks, checking into the Dinner Auction



DESSERT RAFFLE
Don't these look amazing?



SILENT AUCTION— shirt and wine.



“Thanks Ale’s” for the great food and service



LIVE AUCTION —Trump Car, Hat, and Coffee Mug

Save the Date
for the CLMF
20th Annual Dinner Auction
Saturday, May 16, 2020



Auctioneer, David O’Shaughnessey
Emcee, Mark Storch



LIVE AUCTION
Hand Crafted Bowl by Scott O’Neil



Dinner Auction crowd having a great time!



Nancy Kiren, test ride of Ladies Bike

Helping setup items for the AUCTION

Molly Cummins, showing off items for LIVE AUCTION



LIVE AUCTION - Quail Crossing by JP Gorman



Bob Campbell
BJ Holden
Who has the winning Raffle ticket ??

Pat McLean
Alice Campbell



LIVE AUCTION - Pennsylvania Spice Box
with 3 hidden compartments. Hand Crafted by Ken Koch



We Appreciate The NAWS Color Guard





Who was . . . Dr. Bruce Hornbrook Sage

By Jack Latimer, CLMF Historian

Almost everyone who has worked at China Lake will be familiar with the China Lake Pilot Plant, also known as CLPP (pronounced “Clip”). It is the remote area where most of the rocket propulsion work is accomplished. Fewer may be aware of an even more remote area just east of CLPP known as the Salt Wells Pilot Plant where much work was done on the WWII era Fat Man Atomic bomb. The man responsible for planning, constructing, and operating these pilot plants was Dr. Bruce Hornbrook Sage. In 1941, Sage was a professor of chemical engineering on the faculty of the California Institute of Technology (CalTech) in Pasadena, California. Sage and his associate Dr. William Lacey were recruited by Dr. Charles Lauritsen, head of the newly established Navy aircraft rocket research and development program. Sage’s job was to take on the challenge of shaping solid rocket propellant, so it would fit into rocket body tubes.

Early Life. Not much is known about Sage’s youth. He was born on Nov. 24, 1909 in the territory of New Mexico. His early life was spent on a large ranch near Las Cruces, where he learned about horses, cattle, and cowboys. He attended New Mexico State College at Las Cruces, where he graduated with a degree in chemical engineering in 1929. He then went to CalTech in Pasadena, obtaining a master’s Degree in chemical engineering in 1934, and a PhD in mechanical engineering in 1934. He became a research fellow in 1934 at CalTech and a full professor in 1944. He attracted funding from the American Petroleum Institute and significantly added to the world’s knowledge about hydrocarbons.

Navy Rocket Program. When Sage was recruited by Lauritsen, there was no propellant-shaping process known. Sage and Lacey had to invent a process and design and build equipment to produce the shaped propellant grains. Sage led the effort to determine the calculations for designing the burning surface of the propellants so that the gasses released provided a steady thrust to the rocket. CalTech received 2,000 pounds of scarce sheet-formed powder for rocket fuel. He built an extrusion press and had it working in Kellogg Radiation Lab at CalTech. In March 1942, a CalTech worker was killed in an explosion in the lab. This event accelerated the planning to move the operation to the remote Eaton Canyon in the hills near Pasadena. Sage and Lacey made improvements. They made a new solid fuel, based on asphalt fuel mixed with an oxidizer which burned very hot and more slowly and evenly than nitrocellulose explosives. It was much less dangerous to store and use.

However, even at Eaton Canyon, dealing with the propellants was dangerous. In June 1942, a man was killed in an explosion while processing powdered propellants. The amount of propellants being processed so close to Pasadena prompted Lauritsen in 1943 to search for a more remote location where they could test rockets and produce rocket grains. They discovered an area that looked promising in the northern Mojave Desert near the small town of Inyokern. There was an existing paved airfield near a highway and railroad line and a large expanse of flat land where they could test rockets. The Navy acquired the land and began building the test facilities that became known as the Naval Ordnance Test Station, or simply NOTS. Sage considered building a propellant processing plant there. Sage and his team of 264 people began traveling back and forth from Pasadena to Inyokern. Reportedly Sage, known as “the cowboy” at CalTech, would drive his beat-up Mercury sedan at 75 mph over the twisting and mountainous roads while dictating into a wire recorder.

In December 1943, the first rocket, a 3.5-inch diameter rocket was fired at NOTS from a test stand. The first 5-inch rockets, nicknamed “Holy Moses”, were being test fired from aircraft at Goldstone lake near Barstow. Sage was selected to determine the detailed design and equipment for a new propellant production facility at China Lake.

(Sage continued) **Project Camel.** In October 1944, Lauritsen was approached by Dr. J. Robert Oppenheimer about having CalTech support the atomic bomb program. A contract was made between CalTech and the Manhattan Project for CalTech assistance. Among other tasks, Sage and his group were tasked with inventing an explosive to help detonate the implosion-type atomic bomb known as “Fat Man”, which included the tooling, the molds, and all parts of the detonating mechanism. In February 1945, work began at China Lake on a new pilot plant at Salt Wells that was to make detonators for the Fat Man as well as explosive lenses. The plant was finished in 100 days and operated until 1954 supporting the production of the “Fat Man” series atomic bombs.

During his career Sage was awarded the National Medal for Merit for his rocket work and the Thompson award for management of the rocket ordnance program at China Lake. He was awarded the American Institute of Mining, Metallurgical, and Petroleum Engineers (AIME) Anthony F. Lucas Gold Medal in 1954. He was on the technical advisory board of Aerojet General Corp. for 19 years beginning in 1950. He authored three hundred articles and ten books. Sage died on January 11, 1983.

Thank You to all 2019 Dinner Auction Business Supporters!!

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ELKS Lodge of Ridgecrest	Native Turning & Fine Writing Instruments	Waste Management
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Firequick Products, Inc.		Xanterra Parks & Resorts
		Xin Bowl, Asian Bistro

New Outdoor Additions to the Museum

We may be limited on space inside but that isn't keeping us from adding to the outdoor exhibits. Through support from the Naval Air Warfare Center Weapons Division, the Naval Historical Foundation and the Naval Aviation Museum, Pensacola we have been adding outdoor attractions to the Ridgcrest location of the China Lake Museum.

Special thanks go out to:

Ken Blades Trucking for moving both the Mark IV and T39D.

Jimmy Price and his great crew (Eric, Michael and many others) for prepping, painting/other accoutrements and moving the Super Tiger and Hornet 1.

The great folks at Command Artifacts and Administration for outstanding cooperation and setting up a relocation process to bring items off the base. Thanks to Admiral Dillon, CAPT. Dale, CO NAWS, CDR. Conliffe (Retired), LCDR. Art Gutting, - XO (Acting) NAWS, Michelle Leitner, Mike Benson, Kathy Becker, Melissa Finnell, Renee Hatcher, Margo Allen, COL. Jim Coppersmith, USMC (Ret.) and others.

Lenore Taylor at the Naval Aviation Museum for her support.

China Lake Police Department for their patience with our TEAM when obstacles show up during an aircraft move.

NAWS DECA-Commissary for having a forklift in the right spot at the right time.

T39D Champion and outstanding Tug driver and wing lifter— Dave Spencer.

Coming Attractions provided by 2019 Outdoor Exhibit Donations include the VLA (Vertical Launch ASROC), the Raytheon Tomahawk and the Glenn Tierney Bronze statue.



China Lake Museum

Mark IV

Hornet 1



T39D

Laura Hickle

Dave Spencer



**BRONZE VERSION
COMING SOON**

Many Thanks to the following Outdoor Exhibits Sponsors during our 2018 & 2019 Annual Dinner Auctions:

2018 Donors

These donations went towards the F/A-18 pad, restorations of the F/A-18 and trenching for lighting of the F-11.

Dolores Di Pol	Robin Moore
Art & Laura Hickle	Joani Seal
Lou Hillyer	Randy & Diane Sturgeon
Ray & Jennifer Hoffman	Burroughs HS Class of 1981
Dave Janiec	Karen Bruno
Barry & Babs O'Neal	Charles & Nancy May
Mark & Deb Storch	Sheldon Simonovich
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2019 Donors

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Tom McCarthy

Bob & Julie Smith

ADM. Scott Dillon

Pat Brown-Berry

Karen Bruno

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Karin Faber

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To make a Donation to the Outdoor Exhibits, stop by the museum at 130 E. Las Flores Ave., Ridgecrest, CA or Mail your Donation to China Lake Museum, PO Box 217, Ridgecrest, CA 93556-0217.

CONGRATULATIONS TO BURROUGHS HIGH SCHOOL GRADUATES!

Due to the outstanding candidates, the Piper Renae Faust Memorial Scholarship was presented to TWO graduating students at BHS on May 20, 2019.

Both Azma and Aiden Murphree plan to pursue careers in engineering during college. Aiden already announced he plans to return to NAWCWD to work in the future.

The Piper Renae Faust Scholarship was created by Wayne and Pat Doucette (Piper's grandparents) after her passing, at the age of 10, in 2017. Piper was a loving, outgoing, friendly and competitive young lady whose accomplishments at such a young age should be a goal for all to follow. The China Lake Museum Foundation is pleased to be a sponsor of this scholarship and wish Azma and Aiden success as they pursue their education.



Azma, and Aiden Murphree
receiving scholarship from Laura Hickle

CHINA LAKE MUSEUM FOUNDATION
P.O. BOX 217, RIDGECREST, CA 93556-0217



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Save the Date for the CLMF 20th Annual Dinner Auction Saturday, May 16, 2020



China Lake Museum Foundation

Preserving the Legacy of Naval Armament and Technology

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CLMF
P.O. Box 217
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