



# THE CHINA LAKER

Vol. 16, No. 1

Newsletter of the China Lake Museum Foundation

Winter 2010

## **PRE-NOTS CALTECH ROCKET PROGRAMS AND THE FIRST EFFECTIVE COMBAT SYSTEM – THE BARRAGE ROCKET**

*Editor's note: Dr. Charles C. Lauritsen, a key leader in the founding of the Naval Ordnance Test Station (NOTS) at China Lake, led CalTech in research in the early rocket projects some three years before the establishment of NOTS. The Lauritsen Laboratory at China Lake is named after Dr. Lauritsen, as is the Lauritsen Crater on the moon. The early work leading to the barrage rocket provided a template for many future programs at China Lake: Develop highly effective weapons in a short time that are easily produced and at low cost. Most of this material is taken from Vol. 1 of the China Lake history, Albert B. Christman, Sailors, Scientists, and Rockets. History of the Naval Weapons Center, China Lake, California, Volume 1. United States Government Printing Office. 1971.*

Until World War II, the U.S. Navy had shown but sporadic interest in rockets as weapons. The tide turned with the establishment of the rocket program at Caltech. Less by design than happenstance and mutual bias for solid propellants, the CalTech program became one sponsored almost entirely by the Navy. So close did this tie become that the true point of beginning for continuous Navy involvement in rocketry can be defined as the CalTech rocket program.

The first CalTech rocket product was a target rocket, a rocket neither designed for nor used for combat. But it served two useful military purposes. First, over 21,000 military personnel sharpened their gunnery firing at these speedy, erratic targets. More important, it provides an uncomplicated vehicle for CalTech's early experimental work with propellants. The dry extrusion process pioneered by CalTech led to the widely used double-base propellant formulations.

The CalTech weapon to follow the target rocket was a 7.2-inch-diameter antisubmarine rocket (ASR) whose launchers became popularly known as the Mousetrap. By

late 1942 the system was being extensively used along the Atlantic coast and in the Caribbean, and by early 1943 saw extended use in the Pacific theater. It goes down in history as the first CalTech rocket to be fired against the enemy. And since the CalTech program became the beginning of the Navy's modern rocket program, the antisubmarine rockets launched from Mousetrap launchers were the first Navy rockets of the era to see tactical use.

The next CalTech rocket was the retrorocket developed as the weapon partner to the submarine detection system known as MAD. It was the magnetic anomaly detector, later called the magnetic airborne detector, which gave a signal when flown over a mass of metal such as a submarine. The problem was that when the MAD gear told the pilot there was a submarine directly beneath him, it was too late to drop a bomb or depth charge. From the CalTech group came the idea in February 1942 of launching the ASR rocket rearward from the airplane at a velocity equal to the aircraft's forward speed. According to theory, the projectile then should fall straight down. The retrorocket ASR was deployed by the spring of 1943, and by the end of the war, CalTech had produced 50,000 rounds, a large number for early in the war, but small compared to the total number of rockets produced.

### **The Barrage Rocket**

The next rocket program to be started at CalTech grew out of a conversation on June 16, 1942, between Lauritsen and Vice Admiral Wilson Brown, newly appointed Commander of the Amphibious Forces of the Pacific. Brown was attending a demonstration at Goldstone (a present day NASA tracking station on U.S. Army Ft. Irwin grounds, very near the east boundary of Echo Range) of the Mousetrap-launched ASR and other rockets.

Lauritsen asked Brown if he thought the rockets would be useful in the Pacific for defending troop positions. Brown replied, "Hell no, we aren't going to defend anything; we're attacking from now on!" (Note: This pronouncement that the United States was shifting from a defense to offense came a few days before the full retreat of Admiral Isoroku Yamamoto's forces at the Battle of Midway, which was a turning point of the war in the Pacific.) That sounded good to Lauritsen, who responded, "What can we do to help?" Brown pointed out that there was a great need for a weapon with a range of 1,000 to 1,200 yards that could be fired from landing craft as they approached shore, at which time it became necessary for the Fleet to lift its barrage.

A rush program for barrage rockets followed. It represented one of the fastest responses in history of a technical program to new battle requirements. Twelve days after the conversation with Vice Admiral Brown, test models of the 4.5-inch barrage rocket combining the elements of the antisubmarine and other rockets were being successfully tested. The fuzing was a more involved development, but a workable system was available by August and on August 25, 1942, a demonstration was staged at Solomons, Maryland. Following the pattern of other successful rocket demonstration during the war, there was immediately forthcoming, this time in four days, a Bureau of Ordnance request for immediate delivery of operational weapons. In this case the request was for 50 launchers, 3,000 rounds, and 3,000 fuzes to be delivered to the Amphibious Force of the Atlantic Fleet within 30 days. The deadline for delivery was the clue to an urgent operational need.

In order to have the rockets when needed, CalTech not only did the development work but also managed the production. The CalTech personnel were spurred on by the implication that the barrage rocket would provide a way of carrying out an important military operation with a smaller loss of American lives. There was only way to do the job, and that was for everyone, no matter what his professional background, to "turn to" wherever he was most needed. The Navy handled priority problems. The Institute procured and delivered materials to subcontractors. Scientists and engineers became expeditors and inspectors. Office workers doubled at assembly lines after regular hours. Rocket components overflowed the physical capacity of CalTech's Kellogg Laboratory and filled other campus buildings and outdoor areas. It was a hectic time; but on October 10 the last of the rockets were delivered and flown East to meet the deadline.

The barrage rocket was used on November 8, 1942, (Note: A full year before the establishment of NOTS) at Casablanca and contributed to the success of the assault. This was only 70 days from the time the Bureau requested the weapon. It was a dramatic demonstration of what a closely knit technical group could do when the need was clear and administrative barriers were removed.

The crisis of the barrage rocket production added to the growing realization of the CalTech group that the normal procedures of completely separating production from development would not work in wartime without great loss in time and, consequently, lives. The scientists reasoned that if interim production was going to be a repeated fact of life, they should prepare for it. A special section for production was set up at the Institute under Trevor Gardner in November 1942. This was the beginning of the extensive network in Southern California plants set up by Gardner for making the various metal parts for rockets. There was a great need for this organization in the months ahead. Bureau production of the barrage rocket was to start by the late spring of 1943, but it was not until much later that the necessary volume was reached. The demands were running at about 20,000 rounds per month. In view of this urgent need, CalTech continued with the production into 1944. It produced only part of the total of 1,600,000 barrage rockets made during the war, but it filled the gap during the critical first stage when it was the only source for this effective weapon appropriately nicknamed "Old Faithful."

This rocket was used in every major landing in the European Theater. At Salerno Old Faithful silenced gunfire from the beach as waves of landing troops moved in. In the invasion of southern France the launchers of the landing craft were loaded with explosive heads, and the reloads were smoke rockets.

The barrage rockets became standard ordnance for landing craft and patrol boats. The first extensive use of a rocket barrage in the Pacific Theater was at Arawe in December 1943. From then on, rockets were major weapons in the war in the Pacific. By the end of the war each Marine division had a rocket detachment. Typical equipment included 12 one-ton trucks, each with three 12-round launchers. At such battle sites as Saipan, Tinian, Iwo Jima, and Okinawa these were used to give concentration fire for special needs.

As interesting as the special uses were, the main application of the barrage rocket was in laying down massive barrages for amphibious assaults. The first craft to be equipped was a small patrol boat, but the later

trend was to use the rockets on larger landing craft that could handle more launchers and more rounds to produce the heavy saturation desired.

### Summary

To summarize CalTech's pre-NOTS rocket programs: The target rocket proved that rockets could be useful even if not only for limited training needs and focused the experimental work on the critical propellant problem; the ASR with the Mousetrap met a limited tactical requirement and proved that rockets could be militarily practical as shipboard weapons; the retrorocket despite limited use, dramatized a unique scientific approach to the submarine problem; and the 4.5-inch barrage rocket became the first military rocket to be

used effectively by this nation in large quantities and had significant impact on the war. On the basis of these programs, there was recognition in the Navy and the Office of Scientific Research and Development that CalTech was a "can do" organization in rocketry. There is no longer any doubt that rockets were effective weapons of war. Henceforth the Navy was committed to the development of rockets as standard ordnance for the fleet.

### The Museum - CalTech to NOTS

The Museum has a display we call the "Rocket Wall", which has models of several of the CalTech/NOTS programs of World War II, leading up to the most modern unguided rockets being used today in the form of the 2.75-inch rocket and the 5-inch Zuni. China Lake, among many other things, is known for designing weapons that are accurate, have simplicity in design, meet a Naval requirement and are improvable to meet a changing threat without requiring the cost and delay of developing an entirely new system.

An example of improvability is shown on the rocket wall. In the early 1940's Cal Tech had designed a 3.5-inch anti-ship fixed-fin rocket. It was soon found the small 3.5-inch warhead was insufficient for modern day ships. So the first improvement was to replace the small warhead with a 5-inch gun projectile warhead. The result was a very effective warhead but the additional weight slowed the missile's speed by about half. China Lake then developed a 5-inch rocket motor and attached the 5-inch warhead ... producing what became known as the 'Holy Moses' ... a name that was inspired when a young Naval officer upon hearing the rocket motor and the destructive power of the weapon exclaimed, "Holy Moses!" --- makes you wonder what it might have been called if it was invented today. Holy Moses, more properly designated as the High Velocity Aircraft Rocket (HVAR), became one of the most effective rockets of WWII ... used against ships, pillboxes and other hard targets.

In June 1950, NOTS was visited by Navy operators then fighting in Korea. They expressed deep concern over the fact that Russian tanks had been introduced into the

theater and that our current weapons were bouncing off the enhanced armor (they said 14-inch armor plate ... it was more like 12-inch) and asked if we could do something to help. In a matter of 28 days China Lake designed, manufactured and delivered to the Fleet 200 new rockets - the Anti-Tank Aircraft Rocket (ATAR). ATAR was an improved Holy Moses ... a 5-inch rocket (Holy Moses) with a new 6.5-inch conical shaped charge warhead capable of penetrating 15-18 inches of steel.

Between the Korean and Vietnam conflicts, China Lake improved on the basic ATAR design by developing the Zuni rockets ... again the 5-inch basic rocket (with improvements). Zuni came in two different configurations ... air-to-surface and air-to-air. The anti-surface weapons had a 5-inch shaped charge warhead (notice the extended nose) while the air-to-air version had a blast frag warhead. Air-to-surface Zuni performed well in Vietnam but the air-to-air version was less effective. Moving targets (fighters) are hard to hit when the fire control system (located in the aircraft) must predict the position where the target will be during missile time of flight. This problem caused Dr. McLean to ask, 'Why not improve the performance by putting the fire control in the missile?' So 5-inch Zuni was mated to the IR guidance and became the 5-inch Sidewinder.

The 5-inch missile of WWII (with improvements in materials, grain designs, warheads and other improvements) became the standard size missile for many China Lake projects and, after multiple improvements remains the rocket motor for the Sidewinder missile after 60-years.

## China Lake Museum Foundation

P.O. Box 217 · Ridgecrest, CA 93556-0217  
760-939-3530 · [clmf@ridgenet.net](mailto:clmf@ridgenet.net) · 760-939-0564 (FAX)

Bob Campbell, *President*

Jack Latimer, *Secretary*  
Milton Burford, *Director Emeritus*  
Jack Russell, *Director Emeritus*

John DiPol, *Director Emeritus*

Craig Porter, *Treasurer*  
Bill Porter, *Director Emeritus*  
Frank B. St. George, *Director Emeritus*

### TRUSTEES

Dr. John F. Lehman  
CAPT Glenn Tierney, USN (ret.)  
Dr. Karen Higgins

RADM Bert Johnston, USN (ret.)  
RADM Bill Harris, USN (ret.)  
Frank Knemeyer

Dr. James E. Colvard  
Burrell Hays  
RADM M. G. Mathis, USN (ret.)

### Vice Presidents

Vacant, *Membership*  
Bob Peoples, *Public Relations*

Jim Seaman, *Development*

Charles White, *Facilities*  
Paul Homer, *Operations*

Burrell Hays, *Charter Director*

### Directors

Mike Benton  
Pat Connell  
Dale Gates  
Larry Lincicum  
Susan Raglin  
Beth Summers

Steve Boster  
Dotsy Cronin  
Rick Knaggs  
James Manion  
Charles Roulund  
Wade Tallman

Alice Campbell  
Clint Dougherty  
Cedric Knight  
Gary Parsons  
Robert Smith

Dotsy Cronin *Volunteer Coordinator*

## President's Report by Bob Campbell

In August, during his visit to NAWCWD, the Director of the Navy History and Heritage Command stated that he will not provide staffing and funding support for the Naval Museum of Armament and Technology as an official Navy Museum. Since his organization had not previously provided support, this was not a change in policy. This simply reinforced the status quo from a support perspective. NAWCWD and NAWS Command have supported the Museum and will continue to provide support for the Museum with the understanding that the current facility may be designated an Exhibit Center

This, along with an earlier decision by the Commander Navy Region Southwest that they were not interested in

accepting a new Museum facility has changed the landscape for the Foundation.

After discussion with the local Command and consideration of several alternatives, the Foundation Board of Directors agreed that it was important to continue our efforts to relocate the Museum to a site more accessible by the public.

The Board agreed that the commitment to share the story of China Lake's history and the role of the civilian/military/industry team in Naval Armament and Technology is important. The goal is to grow the Museum into an educational and tourism resource for the community and the public in general.

As a result of these developments, the Foundation will continue to focus our efforts to raise the funding necessary to relocate the Museum outside the security perimeter of the base as quickly as possible. Currently the ideal location is believed to be the Ridgecrest business park parcel south of the NAWWS main gate. It is clear we will not move forward with a new facility until we understand in detail the costs for sustainment in the out years and have the cash reserves and cash flow identified to support the new facility, since the Foundation must now assume the Navy will not fund yearly maintenance and operations.

The Board of Directors authorized the initiation of a capital campaign to raise the necessary funds under the leadership of CAPT Jim Seaman, Navy (ret) and his committee. Our goal is to raise sufficient funds to establish a meaningful off base presence within three years. The project will be parsed into increments, with the first increment being a facility with the footprint of 12,000-25,000 square feet. The size will be determined by the available funds. The community has been a strong supporter, and we will be leveraging that support as the springboard for the campaign to bring in donors from outside the community who share our goals for the Museum.

The Foundation plans to continue support of the current Museum operations with its cadre of volunteers and docents. We will continue to market the Museum as a destination for tourists and will continue our education outreach initiatives. We will continue to work with the local Command to improve the exhibits in the current Museum to capture more of the stories not yet shared. An example is the Walleye story, which we now hope to have available by this coming fall.

Several areas of current activity are summarized below.

Our education director Susan Raglin is coordinating a science and engineering camp to be held July 21-24 at the Museum. The camp will be for 4<sup>th</sup> and 5<sup>th</sup> graders. The goal is to expose them to science and engineering as a possible field of interest. She has a team of volunteers including education specialists, scientists and engineers who will be working with the students at this camp.

We hosted, with the support of the Carriage Inn, a talk by Kenneth Sewell, the author of the book Red Star Rogue last Fall which was well attended and received. We have his book available in the gift shop and it relates

a compelling true story about a rogue Soviet submarine that attempted to launch a nuclear missile at Hawaii in the late 1960s.

Susan Raglin and Bob Peoples are organizing another guest lecture by Bob Gilliland, an Annapolis graduate who was a test pilot for the SR-71. He will have some interesting experiences to share and I hope you will take advantage of his talk. This special event will take place in May. Details will be available soon, so keep your eyes open for the date and time.

The Foundation Dinner auction is scheduled for May 29<sup>th</sup> and we hope to see you all there. The dinner auction is our primary source of funds to help support our initiatives, including the summer camp, fund raising start up costs, building and new exhibit expenses, and special speaker programs such as the Kenneth Sewell "Red Star Rogue" event which was held last fall.

The board is addressing the need to hire a Museum Foundation Managing Director. The position will include fund raising, community relations, and operation of the Foundation and the Museum. If you know of any likely candidates, please have them contact me or Paul Homer.

We have worked with the Kern Board of Trade to place an exhibit about our Museum in the Interagency Visitor Center in Lone Pine. The exhibit will be moved and installed in the near future. The Visitor Center experiences over 225,000 visits a year, and our Museum exhibit will help advertise our Museum as a tourism destination as well as acquaint the visitors with the China Lake hiring and education outreach initiatives. By comparison, our Museum experiences over 12,000 visits a year. We anticipate that this number will be significantly higher once the Museum is moved to a location more easily accessible by the public.

Finally, Rick Knaggs and CACI, generously donated a state-of-the-art compact audio recorder to the Museum. We have been using this recorder to capture our docents' knowledge as they give tours. Bob Smith is doing the audio recordings, and Jack Latimer is transcribing the recorded audio. One of our goals is to preserve the stories and this is the first step in that process. The docents provide "life" to the exhibits in the Museum and we hope to be able to transfer these data into future exhibits for the benefit of visitors who are not fortunate enough to have a docent to give them a guided tour.

## How China Lake Got Its Name

by  
Sewell “Pop” Lofinick

### Introduction

For some fifteen years “Pop” Lofinick’s job was to guard the north ranges of the U.S. Naval Ordnance Test Station, a region he knew well from having prospected over the area during the Great Depression. His task was to keep trespassers – prospectors, hunters, rock hounds, etc. – from going into the test ranges, or to get them out if any were found within their borders. Pop did this job from 1947 to 1962 when the NOTS Commander, Capt. Charles Blenman, asked him to come down out of the hills and write a weekly column for the *Rocketeer*, called the Desert Philosopher, which he did for over four years. In 1966, the original Maturango Museum published a book of Pop’s collected columns, *Mojave Desert Ramblings*. This book has been out of print for some years, but a few copies may be found in the IWV occasionally or in a library. This article is taken from that book, which followed the first publication in the *Rocketeer*.

Some weeks ago I wrote about how China Lake got its name. Checked into it further since then and got new information. Here it is ...

We do know that Chinese labor was brought in to build the railroads of California and the west in the early days. When the railroads were built, the Chinese scattered out – working old mine dumps. Some Chinese got rich reworking dumps that the Whites had been careless about in their eagerness for the fast buck.

Sierra Gordo was booming in the 1870s. There were many Chinese there.

### MADE CHARCOAL FOR SMELTERS

Also many Chinese came to Darwin in 1872. They operated charcoal pits in the forested areas of the northwest corner of the Base, making charcoal for the smelters.

They also raised vegetables for Darwin at China Garden Spring four miles south of Darwin. So naturally they also prospected for placer gold in areas not requiring much geological education. So they drifted down into the area now known as China Lake.

### BORAX, POTASH YARN REJECTED

They did not gather borax cotton balls or scrape up potash as some stories have it, because it wasn’t there. I have it from an authoritative source – an outstanding geologist who made a study of the area – that there is no more than a trace of either. But, he reports, there is a finer placer gold there. The Chinese dry-placered fine gold with a feather. It took much time and perseverance. The Chinese had both. They had a camp on the east side of the lake bed. So, it is quite probable it was referred to as China Lake in 1873. So, that’s how China Lake got its name.

Another version – some pioneers looking down on from the top of Wild Horse Mesa at that vast wilderness observed that it looked like a china bowl – so, when there was water in it – it was China Lake. Seems reasonable, -- but no proof.

### POP HAS HIS OWN VERSION

Another version – my own – possibly a box of chinaware fell off a freight wagon. They threw the pieces into the lake. – so, it became China Lake. Many places have gotten names just as accidentally.

*But delete this last version – somebody might believe it!*

## Ridgecrest Author Wins Award for Book About China Lake

When Ridgecrest author Elizabeth "Liz" Babcock attended a Society for Technical Communication regional awards banquet March 6 in San Juan Capistrano, she knew she had won a blue ribbon in her category.

She was delighted to discover that Best of Show in the Spotlight Awards, a regional technical publications competition for an area encompassing Southern California, Nevada and Hawaii, had been awarded to her book, "Magnificent Mavericks," a history of the Navy at China Lake.

"Although lots of technical and military-specific terminology is used throughout, the book reads like a good novel," said one of the judges. "The subject matter is well documented and focuses not only on technology, events, and dates, which it does very well, but also on the human aspects of the place and time.

"The book generously presents the thoughts and emotions of the people who made or reported on the history, giving readers a more complete perspective."

Another judge called the book "a pleasure to read; balancing human interest with the details of developing naval technology," and added that "The detail presented in the book in other, less skillful hands could be tedious reading, but here it comes alive and is energizing and fascinating."

Babcock commented that she is gratified to be recognized by her peers in the technical communication field, the area that occupied most of her career as a civil servant for the Navy. "I knew China Lake alumni would enjoy reading about themselves, but it's wonderful to see that the book is also interesting to people who knew nothing about the Navy's work here before they began to read my book."

As the winner of the Spotlight Awards competition, "Magnificent Mavericks" became eligible for entry in the international competition of the Society for Technical Communication. The winners of that competition will be announced at STC's annual conference this May in Dallas.

"Magnificent Mavericks" encompasses the years 1948 to 1958 at China Lake, years that retirees look back on with nostalgia as "the fun years."

The hardcover version of the book was published in December 2008 by the Naval Historical Center and the Naval Air Systems Command, Washington, D.C., with the paperback version published by the China Lake Museum Foundation in January 2009. Both versions are available from the U.S. Naval Museum of Armament and Technology, with the paperback also on sale at the Maturango Museum and Red Rock Books in Ridgecrest.

The author is a member of STC and of Ridge Writers, the East Sierra Branch of the California Writers Club. She retired in 1996 from a 24-year career as a civil servant at China Lake, during which she served as head of the Publications Division, head of the Technical Library Division and head of staff for the Supply Department, earning her master's in public administration from California State University, Bakersfield, along the way.

Her current schedule involves three part-time jobs: copy editor for the News Review newspaper, staff writer for the Ridgecrest Chamber of Commerce and curator for history at the Maturango Museum. She also works intermittently as a technical editor for SURVICE Engineering.

In what spare time she has, she is the newsletter editor for both Ridge Writers and the Historical Society of the Upper Mojave Desert. Born in Lansing, Mich., Liz graduated with a degree in English literature from Kalamazoo College in 1960, the same year she and her then-husband came to the Indian Wells Valley. She is the proud mother of two and grandmother of two.



**New Membership received since Summer 2009 Newsletter**

**Business Contributor Members (\$100.00 Annually)**

Lone Star Aerospace - Plano, TX

**Lifetime Members (\$1,000.00)**

Carroll, Dennis - Tucson, AZ

Sprinkle, Phillip - Ridgecrest, CA

Weimholt, James - Ridgecrest, CA

**Contributor Members (\$100.00 Annually)**

Gilliland, Robert J. - Burbank, CA

**Sponsor Members (\$33.00 Annually)**

Cooper, Tom & Teresa - Ridgecrest, CA

**Enlisted Military Members ("Free" from Sponsor Memberships)**

Karr, AEC Eric - Ridgecrest, CA

Cole, E-6 Jeffrey & Alaina - Ridgecrest, CA

Faupusa, E-5 Auvae - Ridgecrest, CA

Foster, AZAN Andrew & Claudia - Ridgecrest, CA

Hildebrand, HM Andrew - Ridgecrest, CA

Martinez, ET2 Ramiro - Ridgecrest, CA

Martinez-Excobar, ATAN Ricardo - China Lake, CA

McGuire, AMEAN Sean P. - Naples, FL

Ortiz, E-1 Alexei - Tijeras, NM

Robertson, Cpl David - Hettinger, ND

Smith, E-5 Aaron L. - Ridgecrest, CA

Mstislavskaia, ADAN Vasili - China Lake, CA

**Regular Members (\$25.00 Annually)**

Buffum, Frank & Debby - Ridgecrest, CA

Chang, Lina - Lancaster, CA

Cheshire, Justin & Marion - Ridgecrest, CA

Decker, Neil & Cathy - Ridgecrest, CA

Fallis, Stephen - Ridgecrest, CA

Ford, Brenda - Ridgecrest, CA

Ford, Marie - Ridgecrest, CA

Gaskey, Jordan - Ridgecrest, CA

Harris, Paul & Lee - Chalfant Valley, CA

Hayes, James C. & Yolanda - Ridgecrest, CA

Hoekman, Wes & Sarah - Ridgecrest, CA

Jensen, Debbie & Stewart Thorne - Ridgecrest, CA

Jones, Patricia - Ridgecrest, CA

Lawson, William H. - Lodi, CA

McManis, James - Ridgecrest, CA

McNeely, James & Rochelle -  
Ridgecrest, CA

Rainey, Steven - Ridgecrest, CA

Stevens, Jo - Ridgecrest, CA

Van Aken, Jane - Ridgecrest, CA

Verone, Howard & Barbara -  
Ridgecrest, CA

Zorzi, Carl & Donal - Ridgecrest, CA



**Thank You 2009 Business Donors**

*Please Support our Business Donors*

**\*\*Platinum Plus Donor\*\*** (\$10,000 – \$14,999)

Kern County Board of Trade  
Raytheon

**\*Platinum Donor\*** (\$5,000 – \$9,999)

City of Ridgecrest  
Carriage Inn  
IWW 2000

**Gold Donor** (\$3,000 – \$4,999)

Jewelry To Go  
Jacobs Naval Systems Group  
NDTI New Directions Technologies & Ravensgate Sonic Water Level Meters

**Silver Donor** (\$1,000 – \$2,999)

Alta One Federal Credit Union  
Anonymous  
Alliant Tech Systems - ATK  
Barnhart, Inc. Construction  
Booz Allen Hamilton  
Computer Sciences Corporation  
Country Feed Barn  
Custom Wine Services  
DCS Corporation  
Edward Jones Investments - Avalos  
Firequick Products

Lockheed Martin Services  
Congressman Kevin McCarthy  
Synectic Solutions  
Systems Application & Technologies, Inc. -  
SA-TECH  
Sears Authorized Dealer  
Solar Millennium  
TOSS & Servicemaster  
United Way & Combined Federal Campaign  
Wyle Labs

**Bronze Donor** (\$500 – \$999)

C. Martin Company  
Charlotte Freeman, Quilter  
Furnace Creek Lodge, Death Valley  
JP Gorman Metal Fabrication  
Mammoth Mountain  
MIL Corporation  
Ridgecrest Moving & Storage  
Saalex Solutions

T&T Alignment  
Tejon Ranch Company  
The Boeing Company - NAS Lemoore  
Town & Country Resort Hotel, San Diego  
Valley Fence Co.  
WACOM Thrift Shop  
Walmart

**Friend (\$200 – \$499)**

Aegir Systems  
Aquabonita Flyfishers  
Betty Spindler Ceramics  
Bishop Country Club  
Coldwell Banker Best Realty  
Digital Consulting Service  
Frey's Gunshop  
Assemblywoman Jean Fuller  
Guns 4 Us

Lois Hinman, Painter & Potter  
IVV Insurance  
Mammoth Snowcreek Gold Course  
Merrie Giles Inlaid Glass  
Neely Accountancy  
Packwrap Business Center & Boster Law Office  
Southern Sierra Medical Clinic  
Windows, Walls, 'N' Floors

**Business Contributor (\$10 – \$199)**

AIM Gifts  
Roy Ashburn, California Senator  
Bank of America  
Baxendale's  
Beansters/Pizza Factory  
Body & Bath Boutique  
Botany's Desire  
Bud Eyre Chevrolet Toyota  
Center Pharmacy  
Damiano's Notary Service  
DART  
Dave Pearson's Recycling  
Davis Instruments  
Desert Valley Federal Credit Union  
Earth Landscaping & Maintenance  
Farris' Diner & Ashley Furniture  
Indian Wells Brewing Co.  
JW Enterprises  
Dr. Daniel Kus DDS  
Lori Lopez Custom Jewelry

Maddy's Cottage Fine Dining  
Mather Brothers  
McDonald's, Sierra II, Ridgecrest  
Jon McQuiston, Kern County Supervisor  
Merle Norman Cosmetic Studio  
Michael's Fine Jewelry  
Mickey's Pub & Grill  
Mojave Air & Space Port  
My Enchanted Cottage  
Mystique Chef  
Nelson's Automotive, Inc.  
Party Lite Candles  
Ridgecrest Area Convention & Visitors Bureau  
Searles Valley Minerals  
Sierra Soaring  
Starbucks  
Studio Eight  
Teresa's Ridgecrest Auto Body  
Tommy T's  
Treasures To Cherish

## A-1 Skyraider MIG Killers

Frustration and fatigue were starting to simultaneously set in on me on 20 June 1965. We were 30 days into our third at-sea period, and the ops tempo was intense. Ten days prior we had our first loss, one of our nuggets, Carl Doughtie. The last four days we had not been especially successful. During those four days I had flown 21 hours on an Alfa strike, two road reces and a seven and one half hour RESCAP. The strike was marginally successful with 40 percent BDA, the RESCAP was not. We had to leave the downed pilot when it got dark. One road recce was nothing more than harassment. The other I scored one truck, but someone almost scored me while I was executing a life-saving pullout just short of bending the prop. I logged two nice round holes in the aft fuselage.

The day began normally with the starboard catapult crashing into the water-brake outside my door acting as my alarm clock. It was supposed to be a stand-down day, but by noon we were suiting up for an emergency RESCAP. An Air Force photo-recon pilot had been shot down very deep into the northwest corner of North Vietnam. There were already RESCAP aircraft over the downed pilot, but they were running low on fuel. We were needed for backup coverage.

We manned up, started and were told to shut down. Someone else had covered the pilot, and they did not need us. We unmanned and returned to the ready room and waited. Two hours later we got the call again. We manned up, but did not get started again before we were again put on hold. By the time we got to the ready room we were told to man up again. By now we were fast becoming the leaders in the squadron sweat stain contest. The sweat stain contest was unique to Skyraider squadrons. The winner was the pilot who could merge the salty white left and right armpit stains in the center of his flight suit first. This contest was made possible by the USS MIDWAY (CVA-41) laundry and morale officer who would accept only one flight suit per week per pilot from us. At any rate we were hot, sweaty and beginning to worry that this man up was going to mean no dinner. This time, however, we started, were told that we were a go mission and began our taxi forward to the catapults. At the last minute my Plane Captain, AN Halcomb, gave me a slush filled thermos and a hopeful look (hopeful that he would not have to do a fourth preflight on old 577). I gave him thumbs up and taxied forward to the starboard catapult. It was almost 1800. I spread and locked the wings, got thumbs up from the final checker and agreed with the flight deck officer on a 21,300 pound launch

weight. As I felt the Skyraider settle into the catapult holdback, I release the brakes, added full power and scanned the engine instruments. Everything looked good and with the canopy open everything sounded good -- well at least loud. I returned the cat officer's salute and waited. I saw my flight leader go off the port cat and turn right for our standard starboard side rendezvous. The humidity was so high that his flap tips left contrails and my prop was making corkscrew contrails as the carrier moved through the sultry gulf air.

The cat shot killed my radio. We rendezvoused 1,000 feet on the starboard side of MIDWAY and headed west. After reforming in a finger four formation I tried to get my radio working. As the second element leader I had a "Middleman" aircraft. My airplane had two radios with a relay control box that could be switched so that the low aircraft covering the downed pilot could transmit through my aircraft to the ship using my aircraft at a higher altitude as an antenna relay. I was able to get the number two radio working, but continued to fiddle with number one so that I could act as relay. I got it working and checked in on tactical frequency as we went feet dry. Then it failed again.

Feet dry at 12,000 feet heading northwest we were passing north of Thanh Hoa. LCDR Ed Greathouse was in the lead. On his port wing was LTJG Jim LYNNE. I was on his starboard wing with Charlie Hartmann on my starboard. We all had the standard RESCAP load: two 150 gallon drop-tanks on the stub racks, four LAU-3 pods with 19 2.75 inch rockets apiece and 800 rounds of 20mm for the four wing cannons. We were flying steadily toward the downed pilot while I navigated, searched for active low frequency ADF stations (Until September 1965 the North Vietnamese MiGs used the ADFs listed in our 1964 navigation supplements) and considered what the situation ahead might be.

Suddenly Ed Greathouse rolled inverted into a near vertical dive with Jim Lynne following. I rolled and followed him down. I was concerned that I had not heard anything and that we were only 70 miles inland, at least 80 miles from our RESCAP point. A quick radio check confirmed that my radio was dead. I had missed the buildup to the run-in with the USS STRAUSS (DE-408) alerting us to MiGs in the area. The MiG pilots were on an intercept for two Skyraiders south of us, but missed and were coming around for another intercept when they spotted us.

STRAUSS was keeping Ed Greathouse updated, and when it was apparent that we were the target, Ed took us down. At 12,000 feet and 170 knots we looked like Tweetybird to Sylvester the Cat. Our only hope was to get down low and try to out turn the MiGs. Ed was doing just that. Our split-S got us some speed and reversed our course toward the ship. I figured that any time my nose was pointed at the ground my ordnance should be armed. I armed the guns and set up the rockets. About that time I saw a large unguided rocket go past downward. My first inclination was that it was a SAM, but SAMs generally go up. A second rocket hit the ground near Ed and Jim. There was no doubt we were under attack by MiGs. This was confirmed when a silver MiG-17 with red marking on wings and tail streaked by Charlie and me heading for Ed. Tracers from behind and a jet intake growing larger in my mirror were a signal to start pulling and turning. As I put g's on the Skyraider I could see the two distinct sizes of tracers falling away (The MiG-17 had two 23mm and one 37mm cannon in the nose.) He stayed with us throughout the turn firing all the way. Fortunately, he was unable to stay inside our turn and overshot. As he pulled up Charlie got a quick shot at him but caused no apparent damage. He climbed to a perch position and stayed there.

Our turning had separated us from Ed and Jim. Now that we were no longer under attack my main concern was to rejoin the flight. I caught a glimpse of the leader and his wingman and headed for them. As we had been flying at treetop level in and out of small valleys, we had to fly around a small hill to get to them. Coming around the hill we saw Ed Greathouse and Jim LYNNE low with the MiG lined up behind them. I fired a short burst and missed, but got his attention. He turned hard into us to make a head-on pass. Charlie and I fired simultaneously as he passed so close that Charlie thought that I had hit his vertical stabilizer with the tip of my tail hook and Charlie flew through his wake. Both of us fired all four guns. Charlie's rounds appeared to go down the intake and into the wing root and mine along the top of the fuselage and through the canopy. He never returned our fire, rolled inverted and hit a small hill exploding and burning in a farm field. Charlie and I circled the wreckage while I switched back to number two radio. We briefly considered trying to cut off the other MiG, but were dissuaded by the voice of Ed Greathouse asking what we thought we were doing staying in the area when STRAUSS was reporting numerous bogeys inbound to our position. We took the hint and headed out low level to the Tonkin Gulf where we rejoined with our flight leader.

By now the sun was setting guaranteeing a night arrested landing back at MIDWAY. Our radio report was

misunderstood by MIDWAY CIC which believed that one of us had been shot down. It took some effort for Ed Greathouse to convince them that we were OK and the North Vietnamese were minus one. Rarely does a night carrier landing evoke as little response from a pilot as ours did. We were so pumped up that we hardly noticed it.

After debriefs all around the politics started. Charlie and I were informed that we would get no recognition or awards for our MiG kill. SECNAV had been aboard three days earlier when VF-21 F-4 pilots had bagged the first kills of the war. Their awards were being held until SECNAV could get to Washington, announce it to the President and present it to Congress with the plea for more funds for F-4 Phantoms to fight the air war.

Obviously, the success of primitive Skyriders would undermine his plans. Unfortunately, someone had included our kill in the daily action report to MACV where it was read by COMSEVENFLT DET "C" who thought that it would be an excellent opportunity for Navy public relations. Indirectly Ngyuen Cao Ky, the new Premier of South Vietnam, and a Skyraider pilot, heard of it and recognized Ed Greathouse's name as one of the Skyraider instructors from the RAG. He then demanded our appearance for Vietnamese awards.

The next day we flew to Saigon for the Five O'clock Follies and were instant celebrities, since the news media did not yet know about the F-4 kills. They assumed that we were the first which made an even better story. We stayed at the Majestic Hotel in Saigon where we thoroughly enjoyed the lack of water hours and the availability of our favorite beverages. The next day we were guests of Premier Ky at the palace where we were awarded Air Gallantry Medals and honorary commissions in the South Vietnamese Air Force. After the awards ceremony we sat down to tea with Premier Ky and some of his young hot pilots and traded war stories. He told us that the Skyraider MiG kill had boosted morale tremendously in the VNAF Skyraider squadrons.

Upon arrival back at MIDWAY we were surprised to learn that there had been a change of heart and we would be recognized at the same ceremony as the F-4 pilots. Since they had already been recommended for Silver Stars, Charlie and I go the same while Ed and Jim got Distinguished Flying Crosses. Due to slow processing of earlier awards Charlie and I wore the Silver Star and one foreign decoration for about a month as our only medals. Nothing like starting from the top.

A few days later the carrier went to Yokosuka where

Japanese reporters were very interested. We even became the subject of an article in a boy's adventure comic book. There was a lot of hometown interest also with reporters looking up our wives and parents for comments. This caused me a problem because I had not told my mother that I was flying combat to avoid worrying her.

Needless to say, the VA-25 pilots were not about to let the slack-jawed beady-eyed jet pilots (Ed Greathouse's description) forget our success. The squawk box in the fighter ready rooms got plenty of incoming from our ready room. There was much frustration in the swept wing tail hook community as the next two kills went to the Air Force in July. Then the North Vietnamese pulled the MiGs for more pilot training. The only kill between July 1965 and April 1966 was a single Navy kill in October 1965. We maintained that we embarrassed them into pulling the MiGs.

A combat action happens fast and it is difficult to include all the influences that affect the outcome, but some sidelights are of interest. The day of the shoot down was the first that gun camera film was not loaded in our planes. Charlie fired 75 rounds and I fired 52. We both thought we had fired more. I had considered firing rockets to ensure a kill, but was afraid that the widespread pattern of the LAU-3s would also hit Ed or Jim. Three of our aircraft suffered engine failures in the near future. There were no fighters airborne at the time and they missed a great opportunity for the bogeys launched after the shoot down. Two years later I was invited to Miramar to brief the people setting up "TOP GUN." My briefer said, "Well, you were flying the F-4?" "No." "Oh, the F-8?" "No." "The A-4?" "No." "A-7?" "No." "Well, what the hell were you flying?" "The Skyraider." Then his jaw went slack and his eyes got beady. They're all the same. (See editorial comments below.)

Our squadron, VA-25, "The Fist of the Fleet," was the last operational Skyraider attack squadron in the Navy. We were flying a 20-year-old design that had been perfected about as far as the engineers could take it. Everyone

thought that our time was over as front-line attack. What everyone forgot was that Ed Heinemann had mandated that the Skyraider not only had to be able to carry that 2,000 pound bomb a thousand miles to Tokyo and return to the ship, but that it also had to be able to defend itself against air attack. We never forgot. Unfortunately, even Ed Heinemann could not foresee SAMs. The Skyraider just did not have the top end speed to evade them.

In April 1968 VA-25 retired the Skyraider in favor of the A-7 Corsair II. The aircraft and pilot, Ted Hill, that made the last combat carrier landing led four A-7s in a flyby, broke off to the east and disappeared out of our sight, but not our hearts. Ted flew it to Pensacola where it resides in the National Museum of Naval Aviation in our squadron colors. I flew six combat missions in that aircraft.

I flew as many hours in the A-4 Skyhawk as I did in the Skyraider and later flew the A-7. I truly enjoyed my A-4 time and it became my favorite. However, the Skyraider was something special. Even through my right leg has shrunk to the same size as my left leg, the carbon monoxide is cleared from my blood and the stack gas from my lungs, there is still that feeling that the Skyraider was where I was meant to be.

One final note. The first flight of the Skyraider was on 18 March 1945, my eighth birthday.

Editor: When news of the MiG shoot down arrived in VA-122, we fired off a message to our sister RAG squadrons at Miramar - offering "our assistance in improving their air-combat training." Another MiG shoot down by VA-176 on October 9, 1966 proved the ACM skill of SPAD pilots was not a fluke. Shortly, we heard that Miramar would be the home of the new TOP GUN School. What SPAD pilots had known all along really was important in combat.

CAPT. Ginton B. Johnson, USNR (Ret)

## Classified Since WWII: Monopoly

(You'll never look at the game the same way again!)

Starting in 1941, an increasing number of British Airmen found themselves as the involuntary guests of the Third Reich, and the Crown was casting about for ways and means to facilitate their escape. Now obviously, one of the most helpful aids to that end is a useful and accurate map, one showing not only where stuff was, but also showing the locations of 'safe houses' where a POW on-the-lam could go for food and shelter.

Paper maps had some real drawbacks -- they make a lot of noise when you open and close them, they wear out rapidly, and if they get wet, they turn to mush.

Someone in MI-5 (similar to America's OSS) got the idea of printing escape maps on silk. It's durable, can be scrunched-up into tiny wads, and unfolded as many times as needed, and makes no noise whatsoever. At that time, there was only one manufacturer in Great Britain that had perfected the technology of printing on silk, and that was John Waddington, Ltd. When approached by the government, the firm was only too happy to do its bit for the war effort.

By pure coincidence, Waddington was also the U.K. Licensee for the popular American board game, Monopoly. As it happened, 'games and pastimes' was a category of item qualified for insertion into 'CARE packages', dispatched by the International Red Cross to prisoners of war. Under the strictest of secrecy, in a securely guarded and inaccessible old workshop on the grounds of Waddington's, a group of sworn-to-secrecy employees began mass-producing escape maps, keyed to each region of Germany or Italy (where Allied POW camps were regional systems). When processed, these maps could be folded into such tiny dots that they would actually fit inside a Monopoly playing piece.

As long as they were at it, the clever workmen at Waddington's also managed to add:

1. A playing token, containing a small magnetic compass
2. A two-part metal file that could easily be screwed together
3. Useful amounts of genuine high-denomination German, Italian, and French currency, hidden within the piles of Monopoly money!

British and American air crews were advised, before taking off on their first mission, how to identify a 'rigged' Monopoly set -- by means of a tiny red dot, one cleverly rigged to look like an ordinary printing glitch, located in the corner of the Free Parking square. Of the estimated 35,000 Allied POWs who successfully escaped, an estimated one-third was aided in their flight by the rigged Monopoly sets. Everyone who did so was sworn to secrecy indefinitely, since the British Government might want to use this highly successful ruse in still another, future war. The story wasn't declassified until 2007, when the surviving craftsmen from Waddington's, as well as the firm itself, were finally honored in a public ceremony.

It's always nice when you can play that 'Get Out of Jail' Free' card!

I realize most of you are (probably) too young to have any personal connection to WWII (Dec. '41 to Aug. '45), but this is still interesting.

Story verification: <http://blogs.wsj.com/informedreader/2007/11/19/wwii-pows-perk-monopoly-with-real-money/>.

### Commemorative—Memorial Brick Program

The China Lake Museum Foundation has a brick purchase program. We have several donors who have purchased bricks as part of this program. We are currently working to place our first order and proceed with the display of the purchased brick at the Museum. The bricks are an excellent way of lasting recognition. They will be moved to the new museum once it is in place. Prices for the bricks are \$100 for a 4x8 brick with three lines of inscription. For \$250 one can purchase an 8x8 brick with more lines of inscription. Please contact the Museum Office for details.

*Share the  
Dream*



**The China Lake Museum Foundation**  
Cordially Invites You to the  
**Tenth Annual Dinner~Auction~Fundraiser**  
In Support of

**The U. S. Naval Museum of Armament and Technology**

**Saturday May 29, 2010**  
**Kerr McGee Center**

*100 West California Avenue*  
*Ridgecrest, California*

**5:00 pm - Cocktails - Start Silent Auction**

**6:30 pm - Dinner catered by Farris'**

**7:30 pm - Welcome and Live Auction**

*Desert Casual    Raffle (Must be present)    Cash Bar*

**\$30 Single, \$50 Couple**

*Last day for ticket sales 5/21/10*

*(Seating request available)*

**Event Sponsorship Options:**

**\$1500 Corporate Table and \$1000 Family/  
Small Business Table:** Table for 8 with dinner  
tickets, dinner wine, complimentary one year CLMF  
membership for non-member table guests, name in  
program, significant recognition in local media for  
business/corporate donors, and display of banner at  
event for corporate donors.

**\$250 Sponsorship:** Includes 2 dinner tickets,  
reserved seating, and name in program.

**FOR TICKETS:** Call the Foundation at  
760-939-3530 for information. Order by mail, from  
the China Lake Museum Foundation, P.O. Box 217,  
Ridgecrest, CA 93556. Tickets can also be purchased  
at the U. S. Naval Museum of Armament and  
Technology gift shop, One Pearl Harbor Way, Naval Air  
Weapons Station, China Lake, CA or the Ridgecrest  
Chamber of Commerce located at 128-B East  
California Avenue, Ridgecrest, CA

## Dinner & Auction Information Sheet

The U.S. Naval Museum of Armament and Technology is located on the Naval Air Weapons Station, China Lake, California. The Museum, which was established by the Secretary of the Navy (May 12, 2000), is a national asset with an unmatched display of naval armament and technology. The Museum was established by the Secretary of the Navy on May 12, 2000.



**Museum Mission:** “To document, preserve, display, and interpret an assortment of artifacts, papers, and memorabilia that depict China Lake’s history and the history of the development of naval armament and technology.”

**Museum Vision:** The area of the current facility is limited and greatly restricts the displays, affecting the educational goal of the CLMF. The challenge faced by the Foundation and the Navy is to expand and modernize the Museum. This would allow expanding of exhibits, and developing a focus on the history of science, engineering and technology for educational purposes. The Museum is located on the Navy base requiring special permission for public visitation; simplified access is another part of the plan.

**Auction Objective:** The proceeds from the auction will be placed in the CLMF Fund that supports the costs associated with achieving the overall Museum Vision and Mission.

**Benefits to the Community:** When the new Museum is more accessible by the public, it will provide a significant tourist draw. Tourism directly benefits the local community.

**How the Community Can Help the China Lake Museum Foundation (CLMF):** Membership and participation in the auction are visible indicators of the community support. This support is necessary in the process of gaining outside grant support and funding.

### Opportunities to Participate:

#### Event Sponsorship:

**\$1500 Corporate Table or \$1000 Small Business/Family Table:** A reserved table, dinner for eight, CLMF membership for non-member table guests, dinner wine, and name displayed in the program. The Museum, will include these sponsors names in the local media. Corporate donors can provide their company banner for display at event.

#### Recognition Opportunities in Dinner Auction Program:

- \$500 – full-page
- \$250 – half-page
- \$125 – quarter-page
- \$50 – business-card-size

#### Membership:

**Individual/Family Per Year:** \$25, Contributor \$100, Benefactor \$500, Sponsor \$333 (Individual/Family membership plus sponsors one enlisted membership), Enlisted \$8

**Business Per Year:** Member \$1000, Sponsor \$500, Contributor \$100

**Lifetime Individual/Family:** \$1000

The China Lake Museum Foundation is a 501 (c) (3) corporation. Donations are tax deductible to the fullest extent of the law.

China Lake Museum Foundation  
P.O. Box 217  
Ridgecrest, CA 93556  
760-939-3530



## **Auction ..... Auction ..... Auction ..... Auction**

### **Remember the All New Auction & Dinner Program will be 29 May 2010**

Your Foundation's Planning Committee is creating a new program for the dinner and auction. The program promises to be bigger and better each year, so don't miss it! The main event and evening's excitement will be the Live and Silent Auctions, which are planned this year to ensure everyone can participate and take home outstanding and top quality items. The Auction and Dinner Program is a main fundraiser for the Foundation and for it to be successful we not only need your participation at the Auction & Dinner, but we need your donations of items to be auctioned off. Therefore:

START NOW CONSIDERING WHAT YOU CAN DONATE TO THE AUCTION. May 29th IS LESS THAN TWO MONTHS AWAY, SO DON'T DELAY IN GETTING THOSE GOOD DONATIONS UNDER WAY!

Suggestions are:

- Fine art of which you have grown weary (great tax deduction!)
- Great, but not needed, Christmas gifts (another great tax deduction!)
- Items you loved to purchase for the thrill of shopping
- Good stuff in the house or stashed in the garage that you have outgrown
- Great hobby collection or crafts
- Antiques
- Notable books
- Historical items

In other words, get creative and use your imagination!



Bring donations to the Museum or call and we will pick them up. If you have ideas for making this our most successful event ever, or if you would like to volunteer to participate in preparing for the Dinner Program, please call:

Dotsy Cronin at 760-793-2082

or

Call Chris McKinley at the Museum

760-939-3530

[clmfl@ridgenet.net](mailto:clmfl@ridgenet.net)

## **!!!! We Need You !!!!**

The China Lake Museum Foundation is seeking volunteers to help plan the upcoming Annual Dinner Auction Fundraiser on May 29.

Volunteers get to meet new people, learn new skills, create deep friendships, and never say "I am bored and have nothing to do"!

We have volunteer opportunities large and small in the areas of advertising, publicity, donation solicitation, auction planning, program planning, logistics, data base input and

management, decorations, invitations, program publication, reservations, and more!

We also need additional volunteers to serve a couple of hours a day in the Gift Shop – in order to cover the staff's lunch break, and additional volunteers to serve as greeters and docents.

Please come be a part of this opportunity to help "Share the Dream" of our future Naval Museum of Armament and Technology building

### **Contact:**

Dotsy Cronin at 760-793-2082

NONPROFIT ORG.  
U.S. POSTAGE  
PAID  
RIDGECREST, CA  
PERMIT NO. 48



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