



THE CHINA LAKER

Vol. 8, No. 2

Newsletter of the China Lake Museum Foundation

Spring 2002

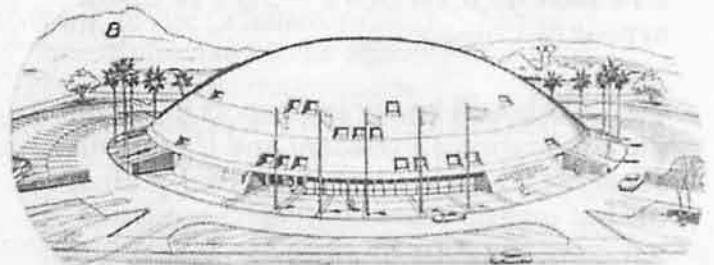
Monolithic Dome – Did the Romans Influence Museum Design?

By Steve Benson, Facilities Committee

You may or may not be familiar with this type of building. Although not yet particularly common in California, monolithic domes are becoming increasingly more common elsewhere in the country and the world, particularly for use as churches, schools, and residential applications. The monolithic dome has been likened to "upside down" swimming pools, and indeed its basic construction is very similar to built-in place pools. The dome's great strength comes from a skeleton of steel reinforcing rods, and its basic structural material is sprayed-in-place concrete (shotcrete). Large hemispherical monolithic domes were originally developed for use as large industrial bulk-material storage facilities, but over the past couple of decades, dome structures have expanded increasingly into homes and other large building applications, including possibly our new Naval Museum of Armament and Technology. The monolithic dome is, in fact, one of the leading two contenders for the future museum building.

The construction process for a monolithic dome is relatively simple and straightforward. First a circular reinforced footing, the size of the finished dome, is prepared. Monolithic domes as large as 250 feet in diameter have been built but the most common size for schools and churches appears to be in the 120 ft to 200-foot-diameter range. An elastomeric preform is then attached and sealed to the footing and inflated using large fans. The preform inflates and assumes the size and shape of the completed dome. Essentially it's a big balloon. Once the balloon is inflated, the entire inside surface of

the preform is coated with several inches of sprayed-on urethane foam. A skeleton of steel reinforcing rods is next attached to the preform's interior against the foam, and shotcrete is applied to a thickness of several inches over the urethane foam thus embedding the reinforcing rod skeleton. Doors, windows, and skylights can be located wherever desired. Once the shotcrete cures, the fan is turned off and the basic dome structure is complete. The elastomeric preform is left in place as the external weather barrier for the dome and can be painted any color desired. Conventional construction methods



U.S. NAVAL MUSEUM OF ARMAMENT AND TECHNOLOGY
CHINA LAKE
(180 FOOT DIAMETER MONOLITHIC DOME CONCEPT)

are then used to complete the interior rooms and portions of the dome.

Monolithic domes possess several inherent characteristics that make them highly desirable for church, school, residential, and in our case, museum applications. The dome's construction cost is comparable to other building methods for the same size, but once the dome is in use, there are large savings in future heating, cooling, and maintenance costs. The dome itself is extremely strong (withstands high winds, tornadoes, earthquakes, etc), (continued on page 5)

Annual Membership Meeting May 3, 2002 – 1:00 PM
Immanuel Ministry Center, 1201 N. China Lake Blvd., Ridgecrest, CA

Museum Happenings

By Barry Lowry, Museum Manager

I'm pleased to report that the museum has been stable since my last report with no changes in personnel, schedule or security issues! We are continuing our operating schedule of Monday through Friday (including Flex-Fridays) 10 am to 4 pm with closures on selected holidays.

Our giftshop merchandise offerings continue to expand with new items related to the history and activities of the Navy. Merchandise specific to the Sidewinder 50th Anniversary celebration is also in the works and should become available in the gift shop about the beginning of May. The Gift Shop Committee has been meeting regularly to identify and prioritize new merchandise acquisitions.

Museum visitors have begun to pick up in recent months. The number of daily museum visitors has increased about 50% from fall 2001 after the events of 9/11. We are also receiving numerous requests for group visits, tour buses, and school tours. There are still some issues to be worked, and the museum staff is hard at work trying to make things happen. We are also in discussion with the Ridgecrest Area Convention and Visitors Bureau regarding marketing of museum tours to the tour bus industry.

The number of luncheons, military education activities, and various other military ceremonies conducted at the museum is also on the increase. Recently NAVAIR WD RDML Michael Bachmann conducted his promotion ceremony at the museum. NAWS has scheduled two days a month of military indoctrination sessions at the museum for the balance of the calendar year. There has been at least one significant event scheduled each week at the museum. museum has be-

come the place to bring distinguished visitors and is often used by the China Lake Protocol Office.

The museum staff provides the CLMF Board of Directors with various kinds of administrative, management, and project support. Recent activity by the Membership Committee has added the processing of four to five new and renewing memberships daily. The staff is also supporting the Membership Committee by being the receiving point for donated auction materials for the 3 May 2002 Dinner-Dance & Auction. We are also playing a significant role in facilitating development of the old kitchen into exhibit space for the SW50th Anniversary celebration. Regular tours and discussions with Safety, Security, Fire Department and PW representatives have also been part of our activity since the beginning of the "kitchen project." Many questions have to be answered during a project of this magnitude.

One side effect of the kitchen construction has been the installation of a brand-new fire alarm system throughout the museum building. The museum staff has also been working with the Fundraising Committee to develop descriptive literature, artwork, and media kits to use in the business solicitation process. Finally, museum staff recently supported the Public Relations Committee by facilitating a very successful news conference to announce the new museum building project and the cooperation of the City of Ridgecrest in positioning the building adjacent to the city's business park project.

The museum is continually a busy place and the pace seems to be increasing. Call us if we can be of assistance.

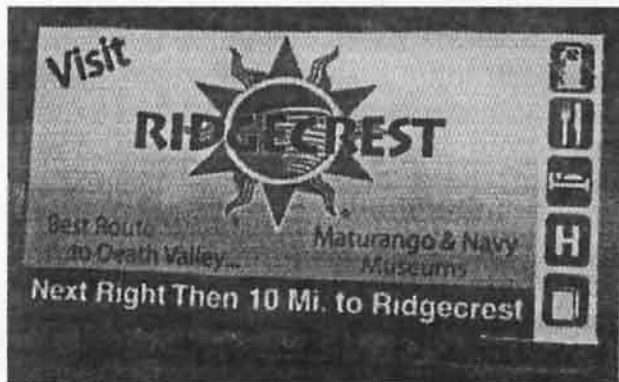
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Signs of the Time

By Tex Hoppus, Sign Project Leader

Whether potential visitors are traveling near Ridgecrest or are residents of our valley, we want to draw their attention to our museum and lead them to our door! We are doing this through SIGNS. Signs that direct people to our museum not only bring interested visitors to our museum but also draw folks who are driving through our valley into the community of Ridgecrest and let us all benefit from their stop. The City of Ridgecrest awarded the foundation a grant to use toward creating informational and directional signs, and here's what we've done so far:

◆ We worked with the Chamber of Commerce, which was in the process of redesigning their "Ridgecrest" sign located near the intersection of Highways 14 and 178. The sign now notes our existence as a "Navy Museum" for travelers going north through our valley on Highway 14.



◆ We are working with the Ridgecrest Area Convention and Visitors Bureau's Executive Director Ray Arthur, and with the California

Department of Transportation, to have our own signs incorporated with the existing TODS signs located at all the major entrance points in our valley. What are TODS signs? They are the "Tourist-Oriented Directional Signs" found at Highways 14 and 178, Highways 395 and 178, Highway 395 and South China Lake Boulevard, and Highway



178 near Richmond Road. We will have directional signs added to five of the seven sign "pod" locations that say "NAVY WPNS MUSEUM" and give directional information to our museum.

◆ We have worked with the Naval Air Weapons Station, CAPT Jim Seaman, to design and place a sign near the Station's main gate that identifies the "Future Location of the Naval Museum of Armament and Technology" and has our easy-to-remember website - www.chinalakemuseum.org.

If you have any other ideas about what signs we can design and where we can install them, please don't hesitate to call Tex Hoppus at 446-3370. We can all benefit from your thoughts and your help on how to best excite folks about our museum and get them to our doors

Sidewinder 50th Anniversary – Many Things to Many People

By Bob Campbell, NAVAIR-WD Museum Director

The Sidewinder 50th Anniversary Celebration continues to grow and appears to be coming together with the help of many volunteers. The volunteers all have their own stories, which we are at-

tempting to capture and relate for both the event and the future. For instance, have you heard of the "Subwinder"? (Continued on page 4)

Sidewinder 50th Anniversary – Many Things to Many People

(continued from page 3)

If not, ask Bud Sewell. Or, have you heard of the HAP version derived from Sidewinder, which included a Sparrow rocket motor? If not, we hope to have the story including the requirement which drove it, in the Sidewinder display room when you come to the event.

I hope that many of you will take the opportunity to read both Liz Babcock's booklet on Sidewinder, and Ron Westrum's book. Both are available in the gift shop and can give you some insight into the stories behind the displays to be opened in the museum the weekend of November 1-3, 2002.

Many have asked why we selected 2002 as the 50th anniversary for Sidewinder? We all know that work was first initiated in the late 1940's, when Dr. Bill McLean and his team first started looking into transfer of the fire control for rockets in air-to-air combat from the aircraft to the rocket—or guided missile. The answer is that it was in 1952 that the first funding tabbed for, and acknowledging the "Sidewinder missile," was received at China Lake. Previous efforts were funded under a multitude of funding sources and disguises. The most common funding rationale was that the work was on an advanced fuze for air combat rockets. Although there were many other initiatives throughout the national technical community, Dr. McLean's concept and philosophy of keeping the solution as simple as possible prevailed and

produced what we came to know as the reliable and effective Sidewinder missile. I believe that the team will concur that their most significant accomplishment was that they succeeded in taking a complex function and providing a simple solution.

Dr. McLean and his team took advantage of the laboratory environment and the testing range in the backyard to explore solutions. There are many stories to be told of the innovative genius of the team as they confronted funding, political, and technical barriers. Through luck and perseverance, the team prevailed. A simple example of innovation by the team is an effort to determine the optimum angle of attack for the canards of the missile. The developers improvised an experiment using a half-scale missile mounted on a truck driving across Mirror Lake on the base, a virtual wind tunnel. This and other stories are being considered for the Sidewinder exhibit at the Museum.

So, once again I remind you to mark your calendars for the weekend of November 1-3, 2002, as this is an event you should not miss. Information on the event will soon be sent out, along with some publicity and a number to call for further information on the event. If you do not see either, please feel free to call the CLMF @ 760-939-3530, or access via our e-mail address, CLMF@ridgenet.net for the details.

New Poster Kicks Off 2002 Membership Drive

By Diane Thompson, Membership Committee

"We need to let the current workforce know we are here at the end of Blandy Avenue," said Frank St. George, Vice-President of Operations at the museum. To that end, three poster designs were created and e-mailed to China Lake

personnel. Two posters commemorate the wide use of China Lake weapons in Operation Enduring Freedom. The one accompanying this article reminds us of the 9/11 tragedy (continued on page 6)

Monolithic Dome – Did the Romans Influence Museum Design?*(continued from page 1)*

secure, and can be made to look very attractive. Two features of the dome that especially lend themselves to our museum application are the dome's large open and unobstructed interior for displaying exhibits and the ease of suspending large exhibits from the dome's ceiling. For the anticipated 40,000-square-foot Navy Museum, the proposed dome concept calls for a 180-foot-diameter segment dome having two floors (partial second floor) with a 50-60-foot center height of the dome above the first floor. Since the dome structure can easily withstand downward point applied loads, it is a straightforward process to design the dome to suspend large heavy exhibits

As such, obtaining the Secretary of the Navy's approval for a new museum became a longer task than originally conceived. As this became apparent the Foundation shifted its near-term objective from fundraising and construction of a new museum to providing support to the Navy effort to obtain official museum status.

Thanks to the personal efforts of the China Lake Museum Committee, headed by Mr. S. O'Neil, and by the then NAWS Commander, Captain J. Seaman, the Secretary of the Navy created the U.S. Naval Museum of Armament and Technology at China Lake on 12 May 2000. I am very proud of the fact that the foundation remained active during the entire period from 1993 to 2000 in its full support of the concept of a new museum. In fact, the foundation grew in membership, volunteers, board directors, as well as the number of tasks performed during that period. The most significant task was the assumption of day-to-day operations of the China Lake Exhibit Center for the Navy. With the standing-up of the new museum status, the foundation quickly reorganized to get back to its original purpose of pro-

such as bombs, missiles, and aircraft for display.

As is apparent from the artist's conceptual drawing of the monolithic dome museum, the museum's external appearance will be impressive and inspiring. Locating the Naval Museum of Armament and Technology Dome immediately south of the visitors center not only will provide a spectacular addition to the Naval Air Warfare Center and city of Ridgecrest, but it will also emphasize the "high tech" history, tradition and spirit which always has, and will always remain, a key trait associated with the Navy at China Lake. (*Conceptual Dome Sketch courtesy of Rick Crandall, Monolithic Dome Institute*)

President's Report – April 2002*(continued from page 2)*

viding a high-quality China Lake museum as well as continue the operation of the current museum. And while the location and appearance of the planned museum is different than planned ten years ago, I believe it still contains the strong commitment for providing the educational history of the China Lake story. This renewed activity is going well, as reported in other parts of this newsletter, and I request anyone interested to get involved in the process.

I wish to thank all of the people who have supported the foundation and the concept of a new museum. I also thank all of the people who have supported me as your Foundation President. That support and the fact that the China Lake history will be preserved by the creation of a complete museum has made the last ten years extremely rewarding.

Now back to business - as stated in the last newsletter, the board will elect a new president at the May 2002 meeting. Currently, Mr. Paul Homer has agreed to run for that office and I will nominate him at the May board meeting.

(continued on page 6)

President's Report – April 2002

(continued from page 5)

If Mr. Homer is elected President, Tex has agreed to be nominated and serve, if elected, as the Vice President for Fundraising. Mrs. Betty Seaman has agreed to be nominated as Vice President for Public Relations. I will continue on the Board of Directors and if requested by the Board will assume

the position of Trustee Board Leader and will establish the Trustee Organization. This organization will be responsible to the VP for Fundraising with the primary duty of raising corporate awareness and sponsorship of foundation requirements.

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(continued from page 4)

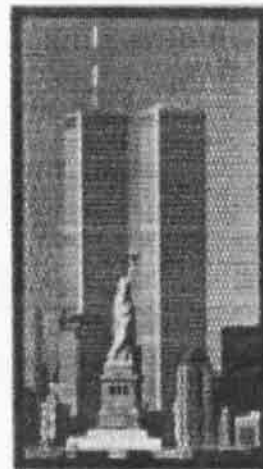
that demonstrated the quick response required of our nation and the pride that we had the capability to provide the key weapons to achieve our national goals. Tomahawks, JDAMs, Laser Guided Bombs and Predators were among the critical weapons developed or tested at NAWC. The third poster provides details on the benefits of museum membership.

"This is an exciting year to join the museum," says Alice Campbell, membership Chairman. "Member benefits have increased and we have great events coming up."

Among those events are the "Fabulous Fifties" at China Lake on May 3 and the biggest Wuzwinder party of all on October 31, celebrating "50 Years of Sidewinder."

The "Preserve the Future Today" theme reminds us that if we do not preserve our technical history as it occurs now, the record will be lost forever. The museum is increasing its efforts to acquire hardware and documentation from maturing programs.

Membership enrollment forms are being circulated widely and are included with the dance flyer in this issue of the newsletter.



**THEY
CALLED,

WE
ANSWERED.

SEE HOW AT**

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



www.chinalakemuseum.org
(760) 939-3530

**JOIN US!
PRESERVE THE FUTURE**

Museum Happenings

By Barry Lowry, Museum Manager

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***Annual Membership Meeting, May 3, 2002 1:00 PM
Immanuel Ministry Center, 1201 N. China Lake Blvd., Ridgecrest, CA***

THE CHINA LAKE MUSEUM FOUNDATION

Cordially Invites You To Our

2nd ANNUAL DINNER DANCE & FUNDRAISER

in support of the

NAVAL MUSEUM OF ARMAMENT AND TECHNOLOGY

Dance to the
Music of
THE BURNERS

May 3, 2002 Kerr-McGee Center
5:30 pm - Cocktails/Silent Auction
7:00 pm - Dinner catered by Hitters
8:00 pm - Welcome/Presentations
8:15 pm - Live Auction followed by Dancing

Emcee & Auctioneer
**WALLACE
MARTIN**

Dress Casual

Raffle

Cash Bar

(Must be present for raffle)

Dinner: ___ x \$20.00/member or ___ x \$25.00/non-member . . . = \$ _____

Event Sponsorship: \$200 Name/Organization _____ = \$ _____

(Sponsorship includes 2 Dinner Tickets, Reserved Seating, Name in Program, 10 Raffle Tickets)

Membership: _____ (type) @ \$ _____ . . . = \$ _____

(Membership is tax deductible TIN#77-0340083)

PURCHASE TICKETS BY FRIDAY, APRIL 26 TOTAL . . . = \$ _____

Annual Memberships:	General/Family	\$ 25.00	Contributor	\$100.00
	Enlisted Active Duty	\$ 8.00	Benefactor	\$500.00
	Sponsor*	\$ 33.00	Business	\$1000.00

Lifetime Membership: \$1000.00 (\$1000 once or \$500 twice consecutively per annum or \$250 four times consecutively per annum)

* Sponsorship of Enlisted Family in addition to own General/Family membership

Name _____
Address _____
City _____ State _____ Zip _____
Telephone () _____ Date _____
Volunteer Work/Area of Interest _____

Method of Payment (Please no cash or COD)
___ Check or money order enclosed; payable
to the China Lake Museum Foundation
___ Visa ___ Mastercard
Card # _____
Expiration Date _____
Issuing Bank _____
Signature _____

Please detach at solid line and return this
portion to:

The China Lake Museum Foundation
P.O. Box 217
Ridgecrest, CA 93556-0217

Or call the Foundation at 939-3530 with your reservation and/or membership information (please have your credit card information ready) Or purchase tickets at the Naval Museum, Maturango Museum, Chamber of Commerce, Jewelry to Go, Lou's Hallmark, or Postal Services Plus.

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CHINA LAKE MUSEUM FOUNDATION
P.O. BOX 217, RIDGECREST, CA 93558-0217

Be There or Be Square - The Annual Dinner Dance Auction on May 3 at Kerr McGee Center starts at 5:30 p.m. with a cocktail hour. It is our principal fundraiser for the year, which raises funds particularly for day-to-day operations of the Museum. China Lakers get together to tell some old stories and come up to date on kids and grandkids, and enjoy the camaraderie with Ridgecrest and business supporters of the Museum. We had a lot of fun at our first event last year and had about 200 in attendance. Fill out the flyer inside this newsletter and mail back to the museum with your check and we'll send you the tickets.

The event this year will feature Hitters as caterer, Wallace Martin as Emcee and Auctioneer who always gets the crowd going for a fun time, and the Burners Dance Band for entertainment. We have started soliciting from local businesses for auction items and have had commitments from Jewelry-To-Go, Country Feed Barn in Inyokern, and Lou's Hallmark. China Lakers Bill McEwan and Bud Biery are donating art pieces, Bill being known for beautiful woodcarvings and metal sculptures. Bud is donating a stained glass piece of yellow roses. Also to be auctioned are some Larry Zabel framed prints of his current beautiful and popular Montana scenery. Larry was a combat artist for many years on Base before he moved to Montana and became famous there for his landscape paintings. Donated services include a dinner for 6 and a vacation at a Mammoth Cabin. Tickets for the event will be sold at Postal Service Plus, Jewelry To Go, Lou's Hallmark, Maturango Museum, and Chamber of Commerce in addition to the Weapons Museum on Base. Tickets are \$20 for members, \$25 for non-members, with Membership in the Foundation ranging from \$25 per year to Lifetime for a \$1000 one-time donation. A special opportunity to sponsor this event is available for \$200 for an organization or person(s), which includes two dinner tickets, reserved seating, name in the program, and 10 raffle tickets. We are still seeking items to be auctioned off, and potential donors can bring items in to the Museum Gift Shop or call at 760-939-3530 and someone will come pick them up. *See you at the dinner-dance!*