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

Don't forget the *Shrike Event* in October!

Schedule

Thursday, 14 October 2004

**Shrike Museum Exhibit Ribbon Cutting and Reception
Shrike Forum (Station Theater)
Code 12 Reception**

**Noon
Afternoon
Evening**

Friday, 15 October 2004

**Dr. Karen Higgins speaks at Station theater
Alumni Picnic on the Lanai behind Museum
China Lake Memorial Wall Dedication**

**Morning
Afternoon
TBD**



THE CHINA LAKER

Vol. 10 No. 3

Newsletter of the China Lake Museum Foundation

Summer 2004

SEMPER FI! The Few, The Proud The United States Marine Corps Part 1: The Early Days

It was October 5, 1775. The second Continental Congress directed General George Washington to give "proper encouragement to the Marines and seamen." On November 10, 1775, the Congress passed a resolution stating that "two Battalions of Marines be raised." Thus, the United States Marine Corps was born and they have celebrated this birthdate for over 200 years.

The Marines have participated in all major wars in which the United States has been involved – War of 1812, Indian Wars, Civil War, Spanish American War ("Remember the Maine"), World War I ("war to end all wars"), World War II ("Remember Pearl Harbor"), Korea, Vietnam, the Gulf War and the current War on Terror. In addition, they have served in many special operations – for example, Bahamas (1776), Tripoli (1805), Columbia (1873), Cuba (1906-09), Philippines (1899-1902), China (1900), Nicaragua (1912, 1928), Mexico (1914), several times in Haiti (1915-34, 1919, 1922, 2004), Dominican Republic (1916-24, 1965), Beirut (1958, 1983), Grenada (1983), Panama (1989), Somalia (1993, 1995), Bosnia (1995), as part of the War on Terror in Afghanistan (2001+) and Iraq (2003+) and many other places – wherever needed.

They also help in other capacities: flood victims in Ceylon (1957), hurricane victims in Kauai (1992), disaster relief in Bangladesh (1991), storm assistance in New Orleans (1995), quieting a rebel-

lion at Alcatraz (1946). In 1959, a Marine named John Glenn became the first American to orbit Earth.

These are but a few of the accomplishments of the United States Marine Corps

The Naval Ordnance Test Station (NOTS) came to Harvey Field in Inyokern effective May 10, 1944. On May 30, 1945, Armitage Field and NOTS officially relocated to China Lake. Sixty Marines arrived July 17, 1945, under the command of Captain Jere T. Tilton, USMCR.

Marine Corps policy was to assign personnel scheduled for discharge in the near future to activities close to their home. Thus, John Gonzales, whose home was in Bakersfield, came to China Lake in October 1945 for a nine-month tour. Most Marines stationed here had served in the Pacific area battles of World War II. Gonzales, who was wounded at Tarawa, still lives in the local area and provided a summary of life in those early days.

All the Marines at that time were responsible for guard duty at the various gates as well as patrol of the base perimeter. Gonzales' main du-



NOTS Front Gate, 1957
Note ID required both entering and leaving

LtCol Joslin Collection

ties were involved with the Atomic Energy Commission, which meant he spent much of his time on the "hill" and out at Salt Wells. Two Marines in a jeep patrolled the base perimeter, checking magazines and other sensitive areas. The Marine Barracks was at the corner of East Inyokern and Hussey Roads. The Marine Mess was also at the Marine Barracks but the Marines escorting prisoners ate at the nearby Navy Mess.

China Lake Museum Foundation

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President's Report, by Paul Homer

Mark your calendars for the 14th and 15th of October 2004. The time period is the scheduled dates for the celebration of the 50th anniversary of the anti-radiation missile (ARM) research, development, and experimental testing that led to the highly successful SHRIKE missile, designed and developed at China Lake. The celebration will be held in conjunction with Don Cooper's Retired Affairs Office fall event, the China Lake Alumni day, Lab briefing, and picnic.

Why the 50th anniversary of ARM work? Most will remember that SHRIKE, by that name, started in the 1959- 1960 time period. However, the earliest reference to anti-radiation experiments at China Lake that Leroy Doig III has been able to find states that: "During 1954, NOTS fabricated and tested a passive-radar seeker gyro for use with Sidewinder electronics and control system. The unit used crystal video detection and demonstrated tracking error of less than +/- 5 mils. The experiments demonstrated the feasibility of an extremely simple, broadband (K and X) passive antiradar missile."

The work progressed over the next 5 or 6 years, with the early ARM concepts leading to SHRIKE called Cobra, and in parallel with a large, expensive program (not done by China Lake) named Corvus. Readers having knowledge of the early ARM work, especially the 1954 - 55 time period, are invited to contact me, Frank St. George, or e-mail to the Museum Foundation address.

Frank St. George is leading a team of China Lakers, current NAVAIR-WD employees, and other volunteers, in the design and development of a new SHRIKE museum display, the planning of a Technical and Operators Forum, and other events that will take place 14, 15 Oct 04. The team is well on the way to the final product that will be a great addition to the Museum, so plan to come to the display unveiling and plan to attend the Technical and Operator Forum.

Museum Happenings by Barry Lowry, Museum Manager

As always, the museum continues to be a busy place with a variety of activities. As we try to man various jobs with volunteers we have the opportunity to meet new and exciting people. One of these is Erica Shaw. Erica is 19 year old who just finished her first year at Cerro Coso Community College, and has graciously volunteered to work in the museum store from 12 noon to 4 pm daily for the summer. Erica has taken right to the task and is regularly greeting customers, processing sales, stocking shelves and helping with inventory control. You might ask how we found such a dedicated volunteer. Erica's father, Bo Shaw, is a Navy employee on the F/A-18 program and volunteers at the museum on flex-Fridays. He is also an avid plastic airplane modeler and has built several models now on display in the Sidewinder Room model cabinet. There is a rumor afoot that Erica's mother might also volunteer some time in the museum store! A dedicated family, I must say.



Dotsy Cronin continues to work with our volunteers to ensure manning of the lobby at the museum to greet visitors and answer their questions. Dotsy is also working to develop the volunteer staff in the museum store, so you can imagine that Erica's presence has been a big help in getting that project off of the ground. With all of the emphasis on reinvigorating the museum store we have begun restocking items that we have been out of for some time. Dotsy, being one that is always up for a new challenge, recently started assuming the task of being the museum store merchandise buyer. In her first outing as a buyer she successfully made purchases from two of our long-time T-shirt vendors and placed an order for Museum Exhibit Guides from one of our printing vendors. If you have ideas on merchandise for the store, please pass them on to Dotsy and we'll see if we can work them into the inventory.

The Shrike Committee is busily working toward developing a display of anti-radiation missile (ARM) technology. The Navy is planning a celebration of Shrike and ARM technology on 14 -15 October 2004 in consonance with the China Lake Alumni Picnic. This will include a ribbon-cutting for the Shrike display at the museum, a Shrike Forum of both scientists/engineers and pilots about the development and use of Shrike, and a Code 12 Reception. These events are scheduled for Thursday,

14 October. On Friday, 15 October, Dr. Higgins will speak at the Station Theater and there will be a picnic on the lanai adjacent to the museum. The Memorial Wall will also be dedicated on the 15th. The Memorial Wall is a project of the CLMF to commemorate those individuals who lost their lives while working at or on active duty at China Lake.

In the last issue of the *China Laker* we had the sad duty of reporting on the passing of former China Lake Technical Director Leroy Riggs. Leroy's family was quite gracious in requesting donations to the foundation in memory of Leroy. We would like to thank the Rigg's family for their consideration in their time of grief which has yielded \$3,120 in donations to the foundation.

On the more mundane side of museum operation, visitor statistics indicate that we are even with or slightly ahead of last year's visitor numbers. The museum store continues to increase sales figures from the low point early in the year. The museum manager survived his foray with the Ridgecrest Star Follies, a lip sync musical fundraiser for the Chamber of Commerce. It is somewhat therapeutic to engage in an activity where you are expected to screw up and people are encouraged to laugh at you. It's also fulfilling to donate one's time to a good cause. Well, that is all the room I have this time. Look for more tales of the museum in the fall issue of the *China Laker*.

Hip Pocket Two (continued from page 11)

Roy Eisenhower asked how we were going to fire in the fog. I told him not to worry about that, but that we should get ready in case the fog lifted.

Our entire team was working in coordination to get the launcher back together and get the missiles loaded. When we finished, the target drone was only ten miles out. When I arrived at our firing console, I noted that none of the fire control director lights were illuminated, indicating that we didn't have a track on the incoming target. The SPS-10 and the SPS-29 search radars were shut down. I asked the Captain if anything on the ship was working, and he said that one engine and the radio were working and that was about it. I told him loudly that he was wrong. One engine, the radio and Sea Chaparral were working. Everybody laughed loudly and just watched.

We were getting calls of the target's location over the loudspeaker from Point Mugu, ninety miles away. I noted that the calls indicated that the inbound drone was off course and would pass behind the ship. I told the Sea Chaparral console operator to scan to the left to see if he could find the target. He immediately did a full hard left on the control, the target appeared on the screen and the "auto track" took over. The countdown had reached two seconds, and I engaged the master arm and told him to fire at zero in the countdown.

At the sound of the missile launch the Captain jumped about three feet off the deck and yelled, "What was that?" I told him that we had fired Sea Chaparral. Just then, there was a boom as the warhead went off. There was absolute silence in the CIC, as every mouth was wide open. The si-

lence ended when Point Mugu range control announced on the loudspeaker that our target drone had been destroyed.

The next morning at two a.m., I was again awakened for a meeting on the bridge. Commander Lavasseur said that Tartar was still down and, if things didn't improve with the ship, we were going to have to return to port. He wanted to know the status of Chaparral. I told him that we stood ready for whatever he needed. He said that Hip Pocket Two had only three target drones assigned. Since we had already destroyed two, he hoped that I would be willing to take the last Sea Chaparral missile back to China Lake. I told him that would be fine with me, if he made it clear in the situation report that the reason for not firing the third Sea Chaparral was to conserve the target drone.

When I returned to China Lake, I learned that Walt LaBerge had been very excited with each situation report that described our outstanding success. He couldn't believe the high praise that we got when we agreed to forgo the third firing to conserve the target drone. People said that he was walking down the halls about three feet off the floor. He told everybody how "the kids respond when given their head." However, after working night and day for about six weeks, including on the ship, I was a wreck.

Without the support of people like Norm Woodall, Bob Hillyer, Dennis Leblanc, Roy Eisenhower and the faith of people like Walt LaBerge, this never would have happened.

Military Operational Note:

On some air bases the Air Force is on one side of the field and civilian aircraft use the other side of the field, with the control tower in the middle.

One day the tower received a call from an aircraft asking, "What time is it?"

The tower responded, "Who is calling?"

The aircraft replied, "What difference does it make?"

The tower replied "It makes a lot of difference. If it is an American Airlines flight, it is 3 o'clock. If it is an Air Force plane, it is 1500 hours. If it is a Navy aircraft, it is 6 bells. If it is an Army aircraft, the big hand is on the 12 and the little hand is on the 3. If it is a Marine Corps aircraft, it's Thursday afternoon and 120 minutes to "Happy Hour".

The Story Behind the Name of Hall Memorial Bowling Lanes

Compiled by Bertha Ryan from the
Rocketeer Vol. XXIV No.14, April 10, 1970, and Vol. XXV No 50, Dec. 18, 1970

LT Gary Hall was born in Kansas in 1940. He enlisted in the Navy in 1958 and, after a distinguished enlisted career, joined the Navy Enlisted Scientific Education Program, earning his BS in Electrical Engineering from the University of Washington.

He received his commission as Ensign in 1964 and entered flight training. After earning his wings, he was assigned to Attack Squadron 125. He earned several awards and decorations for his service in Vietnam.

He became the Safety Officer at the Naval Air Facility in 1969. He lost his life on April 2, 1970, while approaching to land at an Air Force base in Missouri. Reportedly, he was flying a China Lake TA-4 Skyhawk, which rolled inverted during the landing because the door on a converted drop tank that opened, causing the tank to collapse and fold back over the aileron. ADJ3 L.G. Neville, the plane captain, was accompanying him and survived the crash with minor injuries.

On December 15, 1970, the China Lake Bowl was renamed the Hall Memorial Lanes. Hall's former commanding officer said Hall was being honored because he "epitomized the young Naval officer of today" and "his overall contribution to the Navy during his career warranted the honor." We continue to honor LT Hall with his name on the Memorial Wall soon to be dedicated at the United States Naval Museum of Armament and Technolo-

Hip Pocket

By Roland Baker

Hip Pocket was an OPNAV project, so named because an admiral was convinced that he could help the Southeast Asia war effort by doing small projects with small amounts of money out of his hip pocket.

The Naval Weapons Center undertook some Hip Pocket programs on the USS Lawrence, a guided missile destroyer (DDG). I was responsible for the primary task, which was to put Chaparral on the ship as an anti-missile defense system with controls in the Combat Information Center (CIC). The system would have a console in CIC connected to shipboard fire control systems to help point the launcher at approaching targets. It would also have a television camera with telescopic lens on the

gy.



Editor's Note: The following three vignettes by Roland Baker apply to the Vietnam era.

Chaparral launcher, bore-sighted to the missiles. A very low light level television camera with telescopic lens system was added after the demonstration when the ship deployed to Southeast Asia with the Hip Pocket suite on board.

Once the selected missile detected a target, the operator could select "Auto Track" to slave the launcher to the missile seeker to track the target until the missile was fired. When the missile was fired, the launcher "super-elevated" if the launch angle was less than seventeen degrees above the horizon. Once the missile left the launcher, the operator could re-acquire the target by selecting one of the shipboard fire control systems that was tracking the target or select another target

(continued on page 10)

Armament Museum has new resident!

The Joint Direct Attack Munition (JDAM) Project Office presented the China Lake Armament Museum an inert JDAM GBU-32/B. The addition of the JDAM to the Museum updates their inventory with an sample of one of China Lake's latest and most successful weapon development projects. The 1000-pound GBU-32/B is currently in production and has been deployed in combat with great success.

The JDAM evolved from an Operation Desert Storm requirement for an all-weather, accurate strike capability. JDAM converts 500-, 1,000- and 2,000-pound conventional MK80 series bombs, as well as the BLU-109 penetrator warhead, into precision guided weapons through the addition of a bolt-on guidance and control tail kit. The guidance kit consists of a conventional inertial navigation system, aided by the Global Positioning System (GPS). JDAM is a low-cost weapon

capable of destroying a broad spectrum of fixed and relocatable surface targets, while providing standoff capability to reduce the vulnerability of strike aircraft to enemy point defenses. The weapon is compatible for use on F/A-18 A+/C/D/E/F, AV-8B, F-14B/D, F-16C/D, B-52 and B-2 aircraft. There are plans for integrating JDAM on F-15E, F-117, F-22, and B-1 aircraft. The BLU-109, Mk-84, and MK-83 JDAMs are currently in production. The Mk-82 (500-pound bomb) tail kit has completed design and development and will enter the operational test phase in the near future. First dropped from B-52 bombers in Yugoslavia, the JDAM has also been used successfully in Afghanistan and, most recently, Iraq. Because of its accuracy, dependability, and versatility, JDAM is now the fleet's unofficial "Weapon of Choice."



Left to Right:

- Kerry Bush, Boeing JDAM MK82 Program Manager;
- Capt C. Warren, AF JPO MK82 Project Manager;
- Thomas Kelsh, Director, Direct Attack Technical Project Office;
- Dave Janiec, Director, Weapons and Energetics Department (4.7);
- LtCol C. Gray, Deputy Program Manager for JDAM (PMA-201);
- CDR Michelle Guidry, JDAM Class Desk Officer, (PMA-201);
- CAPT Dan Lee, Military Director, Weapons and Energetics Department (4.7);
- CDR Lester Makepeace, Project Officer Direct Attack Technical Project Office
- Robert Campbell, Museum Director

Hip Pocket Two (continued from page 10)

Hip Pocket Two was the second edition of the original program, stemming from the original Hip Pocket's great success. I was responsible for three systems on Hip Pocket Two: Sea Chaparral, Dual Mode Redeye and Hornet. These systems were installed and tested on the guided missile destroyer (DDG), USS Hoel. This write-up will deal just with the Sea Chaparral.

The new Sea Chaparral would use the new AIM-9L guidance section, a semi-active infrared fuze and a narrow-beam, annular, blast-fragmentation warhead. These new elements would increase the target head-on detection capability and kill probability. All the previously used fire control tie-ins to the ship's on-board fire control systems would be installed with enhancements. A new, improved console would be placed in the Combat Information Center between the SPS-10 and the SPS-29 search radar operators' consoles for better target information transfer.

Once again we were under a very tight schedule, but since Sidewinder was having one flight test failure after another, Bill Porter decided that we should have a test at China Lake before we deployed for fleet testing. We attempted a flight test against a Ballistic Aerial Target System (BATS) provided by the Army Missile Command in Huntsville, Alabama. However, the signal-to-noise ratio for the seeker was inadequate, and the test was a failure.

It was Friday, and the ship was scheduled to go to sea for testing on Sunday. We had a meeting in Walt LaBerge's office with Bill Porter, Fred Chenault, Norm Woodall and others. Bill Porter and Fred Chenault were adamant that we have a successful test at China Lake before going to sea. Walt LaBerge started asking questions about why I was so sure that we could have a successful test at sea. I explained that the problem with the Sidewinder flight tests, and our own flight test against the BATS, was that the signal-to-noise ratio for the seeker was very low. That meant that when the rocket motor ignited, micro-physics swamped the seeker signal, causing it to break lock. I said that with the BQM target we should have 20-to-1 signal-to-noise ratio and should not suffer a break lock. Norm Woodall said that I was conservative, and we would probably have a 30-to-1 signal-to-noise ratio. Walt LaBerge made the decision to let us take the missiles to San Diego and conduct the tests.

As I left Walt LaBerge's office, I realized that

I was in "Catch 22". If we failed, Bill Porter and Fred Chenault would say, "I told you so," and Walt LaBerge would be greatly disappointed. If we were successful, Bill Porter and Fred Chenault would hate me for showing them up, and Walt LaBerge wouldn't be able to save my career.

We worked through the weekend, getting the remaining gear ready and transporting it to San Diego. We loaded it on the ship and left port on Sunday as scheduled. Tartar was scheduled to be the first weapon tested, but about two a.m. Monday morning I was asked to come to the bridge for a meeting. Commander Lavasseur from the Naval Missile Systems Engineering Station, Port Hueneme, California, who was designated as test director said that Tartar was down. He asked if we could test on Monday. I said that if they let us out on deck early to finish assembling the system and gave us permission to handle weapons so that we could load the launcher; I didn't see a problem. I got the team up early, and we finished assembling the launcher and loaded the missiles.

At nine a.m. we were informed that the target was airborne and we should take cover in CIC. With good information from the search radars and fire control systems, we shot the drone down on its first inbound pass.

However, since some of the launcher systems weren't working the way we liked, we disassembled the launcher to try to eliminate the problems. We sent a situation report to all parties concerned, telling of our successful test and the ongoing problems with Tartar. However, the Tartar people were sure that they would be able to fire Tuesday morning, and they scheduled the drone and the range again.

At two a.m. I was again called to a meeting on the bridge because Tartar was still having trouble. We wanted to be sure that if Tartar went down, we could take the range time for the Sea Chaparral test. I assured them that we could be ready. The next morning the ship was at "General Quarters", which meant that we would not be allowed on deck until Tartar either fired the missile or cancelled.

Tartar continued trying to get their missile system up. But when the drone was launched from Point Mugu, they admitted they would not be able to conduct their test. The ship stood down from "General Quarters", and we were allowed on deck. When we opened the hatch, the fog was so thick you could only see about five feet. Roy

(continued on page

SEMPER FI! Part 2 (continued from page 9)

He also commented that, in a sense, combat was easier than regular squadron work. He and other Marines often flew 16 to 18 hours a day in Iraq, much of it (and increasingly so) at night. Enlisted personnel take over the other squadron tasks that the pilots usually handle in a noncombat situation. The pilot is free in this environment to focus on the mission and his flying. The combat is effective because of these dedicated enlisted Marines.

Maj Daly stressed the outstanding teamwork, focus and cooperation among the Marines, Navy, civil servants and contractors at China Lake. They all understand very well the importance of their mission in support of the War on Terror and give extra effort whenever needed.

Over the years, many people, civilian and military, have made the ultimate sacrifice in support of the mission at China Lake. Five United States Marines are included in this group:

- March 25, 1958, Private Jerald V. Roberts, Shooting Accident
- September 22, 1960, Captain Howard C. Casada, F-104 Starfighter
- April 28, 1961, Captain David L. Hess (accident on April 4), F-104 Starfighter

Hip Pocket (continued from page 3)

from a different fire control radar.

The Naval Weapons Center was supported in this task by a very capable team from Aeronutronics Division of Ford Motor Company in Newport Beach, California. The system was installed at the Naval Shipyard in Norfolk, Virginia. The testing was done out of the Naval Station at Mayport, Florida. The Sea Chaparral, as it was known, was a huge success during testing and in Southeast Asia.

Gun Line Sea Chaparral

Gun Line Sea Chaparral grew out of the Hip Pocket program but was a slimmed-down version for economic reasons. There was to be no console in CIC, and it would be placed on regular destroyers (DD). The Chaparral launcher would be mounted on the "DASH" deck, a flat deck left over from a removed system. The launchers would be manned and operated by sailors from the ship's crew.

There would be no tie-in to the fire control system. The system was designed at the Naval

- October 23, 1983, Major Harold Reeves, OV-10A Bronco
- August 30, 1999, Colonel Kevin Leffler, AV-8B Harrier

A retired Marine lieutenant colonel, who traveled along the island chains in the Pacific during WWII, perhaps remembering cases similar to the torpedo problem Maj Daly mentioned, said, "The sacrifice of these people and the work done at China Lake contribute to saving lives in combat."

Thus, the Marines have guarded America – from the early days of our country to the current streets of Baghdad — from the ground, the sea, the air. At China Lake and throughout the world and even into space, they serve and guard with a unique mix of time-honored infantry and 21st Century technology. In the words of the Marines' Hymn – "If the Army and the Navy ever look on Heaven's scenes, they will find the streets are guarded by United States Marines!"

Thank you, USMC.
Semper Fi!



Though never fired in combat, the launcher with the two television cameras was used extensively for finding targets, engaging targets with the ship's five-inch guns and doing damage assessment. The ship's commander was very supportive of the system upon his return from Southeast Asia and worked to get the system on other ships.

Weapons Center, then built by a highly competent team from Aeronutronics Division of Ford Motor Company, Newport Beach, California. The first system was installed on the USS Floyd B. Parks at the Naval Station, San Diego, with skilled help from a destroyer tender. After testing off San Diego, California, and at Barking Sands, Hawaii, the system was deployed to Southeast Asia. Additional systems were installed in the Philippines as ships rotated off the gun line.

(continued on page 11, Hip Pocket Two)

HELP: Volunteers needed!

For the past two years, your museum has been gathering names of the people assigned to or employed at China Lake who have lost their lives accidentally in the line of duty. We are about to begin construction of a memorial wall listing the names of these people. To date we have gathered 73 names dating from 1944 to the present mostly by going through issues of the *Rocketeer*. We do not want to miss anyone as we almost did LT Hall who was identified by someone from www.chinalakealumni.org. We missed him in the old *Rocketeers* – not once but twice.

We need your help. As a minimum, please send us the name of anyone you know who has lost his/her life on duty at China Lake with an approximate date and we will compare your information with our current list. In addition, if you can spare an hour or two and have access to the Administration Building, we could use some fresh eyes to go through old *Rocketeers*. Just let us know and we will show you where the old *Rocketeers* are located and what we need. Thank you in advance for any help you can give. Museum: clmf1@ridgenet.net or 760/939-3530.

Notes

• A friend of mine is an officer in the naval reserve. A few weeks ago, He was attending a conference that included admirals in both the US and the French navies. At a cocktail reception, my friend found himself in a small group that included an admiral from each of the two navies. The French admiral started complaining that whereas Europeans learned many languages, Americans only learned English. He then asked, "Why is it

that we have to speak English in these conferences rather than you have to speak French?"

Without even hesitating, the American admiral replied, "Maybe it is because we arranged it so that you did not have to learn to speak German."

The group became very silent.

• **Basic Flying Rules**

1. Try to stay in the middle of the air.
2. Do not go near the edges of it.
3. The edges of the air can be recognized by the appearance of ground, buildings, sea, trees and interstellar space. It is much more difficult to fly there.
4. You know that your landing gear is up and locked when it takes full power to taxi to the terminal.

• At a very early age, a little boy told his father that he wanted to grow up and be a pilot. His father replied, "Son, you can't do both."

The little boy became a pilot.

Visit our
China Lake Museum Foundation
website!

www.chinalakemuseum.org

"New Memberships" received since publishing the Spring 2004 Newsletter:**Business Contributor Members (\$100.00 Annually)**

Edward Jones, Inc./Vince Avalos, Ridgecrest CA
MCR/LRI Inc., Santa Barbara CA
New Directions Technology, Inc., Ridgecrest CA

Lifetime Members (\$1,000.00)

John & Christel Chesney, Ridgecrest CA

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Otis & Barbara Craig, Oakland CA
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Barry & Janet Hand, Ridgecrest CA
Terry & Jane Kuhlman, Ridgecrest CA
RADM Paul & Clarine Pugh (Ret.), Oceanside CA
Cathleen Schnatterly O'Neil, Overland Park KS
Louis & Patricia Riggs, Lafayette, CA
Les & Nancy Saxton, Ridgecrest CA
Robert & Betty Wilson, Pagosa Springs CO

CLMF Fundraiser Yard Sale

We were successful in raising \$1,009.50 from our June 18th CLMF Yard Sale. The \$1,009.50 will be used to purchase items for our 2005 Annual Membership Dinner/Auction scheduled on March 5, 2005. Thank you CLMF members for your great support and items donated for the yard sale. All clothing was donated to the

Ridgecrest Women's Shelter, and remaining items that did not sell were donated to WACOM. Therefore, everyone benefited from your generous donations!

A big "Thank You" to Stan and Kelly Barber, who hosted the yard sale at their home. Also a "Thank You" to Mary Ann Clodt, Sam Clodt, Rhon-

Please Support Your Museum Foundation

Help preserve and display the irreplaceable legacy of technology and weaponry for Naval aviation's defense of our Nation. The rich record of China Lake's achievements, past and present, is a vital part of our Nation's heritage.

Membership Fees and Donations
are the life blood of our Museum operations and growth.
And remember: The China Lake Museum Foundation is

Agency 5021

in the 2004-05 IWV

United Way and Combined Federal Campaigns***SEMPER FI! Part 2*** (continued from page 8)

was that time was short and needs were imperative. It turned out that some weapons that worked well in the lab and other tests did not work in the combat environment.

Specifically, a torpedo often operated correctly under pristine laboratory conditions and even later during tests in Haiwee Reservoir and at Morris Dam in Pasadena. When deployed to the wartime environment, the varying density of the ocean caused unexpected results in the torpedo trajectory. Enemy action then caused the loss of submarines and ships with the consequent sacrifice of lives.

Thus, it was evident that weapons systems must be tested in the real world environment they encounter in combat in the parts of the world where our forces must operate – or as close as possible to those conditions. This is the mission of VX-9 today and its early predecessor, AODU-1 dating back to 1945.

Maj Kevin Daly of VX-9 at China Lake, and a veteran of Operation Iraqi Freedom, generously provided the following information about the background of Marine Corps operations, their mission and the current work at China Lake.

The Marines operate in a manner unique to them in order to perform their mission. They specialize in Close Air Support (CAS). Each Marine, no matter what field of endeavor he eventually pursues, begins his military career in the infantry. At the end of that initial training, he can select other fields such as aviation. From there he can pursue jets, C-130s or helicopters.

Marine aviation works closely with the ground troops. The officer on the ground directing close air support must be a qualified aviator. Thus, he understands the combat problem from both the perspective of the air and the ground. All of these operational considerations figure into the mission of VX-9.

Maj Daly, who flies a Cobra helicopter, has been stationed at China Lake both before and after his Iraq deployment. His task is to evaluate the new software system for the Cobra helicopter – Cobra 2.0.

This software, which controls the navigation, communication, targeting, etc., is in constant development as new technology comes along. The final aim is to make the task simpler for the aircrew so that they can devote full attention to accomplishing the mission. New technology allows for greater standoff distances resulting in safer condi-

tions for airborne Marines in combat.

The flying at China Lake usually consists of scripted flight plans. In order to test in as realistic combat conditions as possible, Maj Daly flies down to Twentynine Palms where an approximate war environment is simulated. Upon arrival, he receives direction from a ground controller, then proceeds on the mission during which he and the weapons system must have the flexibility to adjust to surprises as may be encountered in actual combat. The pilot then has to do the deskwork of analyzing the data, adding to the systems operational manual, creating the tactics manual and writing the final report.

Concerning the effect of his combat experience on his work at China Lake, Maj Daly said it validated and reinforced his original opinion – the system must be right and it must be right the first time. The VX-9 pilots must anticipate and solve problems before the system leaves China Lake. There is no time in combat to make adjustments and a system that does not work as it should is abandoned.

(continued on page 10)



Photo from SSGT John Berube USMC

Cobra with Hellfire Missiles at China Lake