THE LIFE AND EXCITING TIMES OF GUY CHARLES THRoner, JR.
AT THE NAVAL ORDNANCE TEST STATION
1945-1953

by
Guy C. Throner

PROJECT CAMEL AND THE PUMPKIN BOMB
(An Excerpt)

Editors Note: Guy C. Throner recently contacted the China Lake Museum foundation and offered his autobiography. He had finished his book in 2001, which was written for his children and grandchildren. As one the pioneers at China Lake and having served here for eight years, he consolidated several chapters into one presentation, titled as shown in the above introduction. We will publish excerpts in the China Laker from time to time.

Mr. Throner’s cover letter to his biography states:
“I will cover a bit of my experience prior to my arriving in China Lake. I received my Navy commission in August of 1943. I volunteered for bomb disposal duty and was sent to Bomb Disposal School at the American University in Washington, D.C., graduating in January 1944. I was sent to eight Technical ordnance schools including Under Water Demolition (Frog Man School), and then to Africa, Sicily, Sardinia, Italy, and made the invasion of southern France. I ended in Marseille doing bomb and mine disposal work. We disposed of 600 tons of unexploded ordnance including 261 tons of magnetic/acoustic underwater mines in three months. By December our job was done. The port was cleared of dangerous material and it was operating in support of General Patton’s Army. We were ordered back to Washington in mid-December. In the end of February, I had received my orders to report for duty at NOTS Inyokern....And now on to the story.”

Shortly after arriving and getting settled into quarters, Lt. Dave Carnahan, my boss, was asked by the Experimental Officer, Commander “Chick” Hayward (Chick later made Vice Admiral, the Commander of the Atlantic Fleet, and eventually Vice Chief of Naval Operations) to assign a bomb disposal officer to a very secret program. I, being the junior officer present, was given the job. The project involved the development of a large free-fall bomb, a strange looking device that wasn’t anything like the bomb one was used to seeing. The project was different in several ways. First, no station aircraft were involved in dropping the bomb. Secondly, no one could tell you anything about the project. Third, the planes that dropped the bombs were bigger than any we had ever seen. They left the station after dropping the bombs, to where, no one knew or would say. These were what we would later get to know as the Manhattan Project’s “Fat Man” practice bombs that were dropped.

The development of the implosion version of the atomic bomb, code named “Fat Man,” was assigned to California Institute of Technology by General Leslie Groves and Dr. Robert Oppenheimer. Los Alamos had proven that the implosion concept would work in the detonation of a prototype design in the Alamogordo test, but Los Alamos was very busy with the development of the gun bombs called the “Thin Man,” and “Little Boy” – the bomb dropped on Hiroshima. They gave the task of making a implosion type design to Caltech and NOTS. The team was given the complete job of making the weapon except for the Plutonium pit which would be provided by the nuclear reactors at the Hanford Nuclear Facility at Richland, Washington. {We knew that something went inside the bomb but had no idea what it was until after the war had ended}. 
The job involved the design of the explosive lenses, the molds in which to cast the explosive blocks (pentagons), the design of the bomb casing and tail fins, the high voltage "Pot Switch" that would fire the 32 detonators simultaneously as possible, the radar and barometric fuze that would detonate the bomb at the correct altitude, and the development of the bomb firing tables (the ballistics of the bomb). The design and construction of the high-explosive casting facility (Salt Wells Pilot Plant) was also assigned to the team. The assembly buildings were located quite near our Area R shop. The explosive casting facility and the explosive ballistic facility were located about four miles from the assembly complex.

The actual testing of the bomb was done on the NOTS ranges. They were dropped from modified B-29s from the Army Air Corps' Wendover, Nevada Air Facility W-47. The bomb was so large that that the B-29 bomb bays had to be enlarged. We didn't learn where the planes were based until after the end of the war when the Smyth Report was issued. We learned that W-47 had an overseas mailing address, but one of the officers let it be known that W-47 was not overseas. His mail was intercepted, and as a result he was sent to Alaska, never to return until the War was over. Security on the project was really important, expected and enforced. From April through July 1945, there were a number of drops made on the NOTS ranges. Most of the bombs exploded in air as they were supposed to, several on impact with the ground, and two failed to detonate at all. It is obvious that these tests did not contain fissionable material, but they did have a polished steel pit in its stead. In a properly operating bomb the imploding explosive left a discernible pattern imprinted on the steel pit so it was possible to determine that the explosive charge had performed as required.

Everyone on the range crew had the task of locating the pit and delivering it to the project engineers as soon as possible after the test. The engineers and physicists tried to ascertain if the implosion performed properly from the impressions made by the shock waves from the explosive pentagons. The imprints were uniform if all of the detonators fired simultaneously; if they didn't, the pit would be distorted or broken into small pieces. If a bomb failed to detonate it called for First Class Petty Officer Rooney and me to dig out the 32 large detonators, each about the size of a hand grenade, from the 3,500 pounds of Composition B (an explosive type), and assorted metal parts. If I remember correctly there were only two duds in the test series (there may have been more but my memory fails me on this).

We still did not know what we were working on, but we certainly knew it was different - bombs blow outward, this one blew inward. It was not until the early part of July that word went around we were working on a Buck Rogers bomb....an atomic bomb, whatever that was. The only people that had any idea of what an atomic bomb was were the people who had witnessed the detonation of the prototype "Fat Man" at the Alamogordo Trinity site shot; and there were very few people who had witnessed the detonation the Trinity explosion. Maybe Charlie Lauritsen had been at Alamogordo, of that I am not sure, but no one else working on the bomb knew what the bomb could do.

When every thing came together in the final design the engineers found that the explosive components would not go together properly. The Composition B blocks were too large. An estimate had been made on how much the explosive would shrink on cooling when taken out of the production molds. It did not shrink as much as they thought it would. The explosive pentagons would have to be machined but no one knew if the Composition B could be machined without detonating. If not, new molds would have to be made and new charges cast. This would cause a long delay in the program because the molds were very complicated and had to be made very accurately. I got a call from Caltech asking if it was Okay to machine Composition B. I told them I was not sure it could be done but I would find out. They said it was imperative that they have the answer within an hour or the whole project would come to a screeching halt if the molds had to be modified, a four- to six-week task. I had been disposing of rejected pentagons and risers from the Salt Wells Pilot Plant casting facility to the tune of about 1500 pounds a week and handling the stuff roughly. Rooney and I had dug up two unexploded bombs on the range without a problem so I was pretty sure the stuff could be machined, but it remained to be proven. The process used to demonstrate Composition B could be machined was straightforward and simple. I used a brace and bit to drill a hole in a Composition B block while Lt (jg) Phil Barry, also bomb disposal, flooded the drill bit

(Cont’d Page 5)
China Lake Museum Foundation
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Presidents Report by Bob Campbell

Magnificent Mavericks
The hard cover version of volume 3 of the China Lake history is here. Pat Connell is working to get the soft cover version published as soon as possible. The copies of the hard cover issue that we ordered are already reserved, but you can reserve a copy of the soft cover version by contacting the gift shop at 760-939-3530. Chris McKinley will be calling those of you who have already placed your name on the waiting list.

Legends and Legacy event
This year RDML Dunaway and Scott O’Neil are coordinating with us to jointly host a special “Legends and Legacy event”. Current plans are to hold the event in February, when RDML Dunaway will be able to return from his new position to participate. Both he and Scott see this as an educational opportunity to acquaint the many new employees and the community about some of the China Lake history. Jim Colvard has been asked to serve as the keynote speaker, and there will be selected video clips of several other key “legends”, many of whom we hope will be able to attend. Once the date is finalized you will all be receiving an invite, and we hope you will be able to attend.

Dinner Auction
Please mark your calendars and plan to attend our dinner auction event scheduled for Saturday, May 30, 2009. The funds raised will help support achievement of our overall goals discussed in the Annual Appeal letter enclosed with this newsletter.
President's Report (Continued)

Fund Raising

Jim Seaman has stepped up to take on the leadership role, as VP Development, with the support of Pat Connell and an advisory board including current directors. It is clear that their efforts must be leveraged through the employment of a dedicated campaign team including paid staff and consultant support, as the task is too large for a volunteer only effort. Further details are included in the Annual Appeal letter.

Museum Story

Wayne Doucette and Frank Knemeyer have formed a group of volunteers to work with the Navy to further develop the vision of the stories to be told in the Museum. The product of this group will be utilized as the basis for sharing the direction in which we are going with potential donors and visitors.

Membership

We are embarking on an effort to increase our membership by 50% this year in order to help cover operational costs, and provide seed money to support grant writer costs or other related costs associated with our overall goals. Please consider giving a membership to a friend or relative who you believe would be interested in helping to support the Museum and the Foundation.

Walleye

We continue to work with the Navy to finalize the Walleye exhibit design, collect the artifacts and locate the spaces in which the exhibit can be constructed. Lockheed Martin is the latest donor with a $10K contribution for this effort. Marc Moulton is leading the design phase. We hope the pieces all come together so that the exhibit can be completed in 2009.

Annual Meeting

Most of you missed a special treat at our Annual Membership Meeting. Dr. Bob Smith gave us a briefing on Michelson and China Lake that he and Ken Banks gave to the Naval Academy in honor of the 100 year anniversary of Albert Michelson’s receipt of the Nobel Prize. The briefing provided excellent insight into China Lake products and legacy, both current and past. We have DVDs of the presentation made to the Naval Academy available in the gift shop.

Education

Susie Raglin is representing the Foundation, and is working with the Navy and the School District to identify education outreach initiatives.

John Ohl Estate

The estate of John Ohl donated his extensive collection of hard cover military history books to the Foundation. We decided to keep the 1084 book collection intact and have transferred to the Navy artifacts/archive collection which is being managed by Vince Vargas. He has stocked the books into shelves and they are available through him.

We need more volunteers so if you see any areas in which you would like to participate, please call the Foundation office at (760) 939-3530 and I will see that the right person contacts you. We value your membership and donor support and welcome any inputs you can share.
Continued from page 2—PROJECT CAMEL AND THE PUMPKIN BOMB

with water from a garden hose. Composition B could indeed be machined and it was. Project Camel, the atomic bomb’s so called project name, would produce a Fat Man on schedule and be used to bring the Japanese to her knees at Nagasaki.

My wife, Jean, was also working on the project as secretary to Dr. Emory Ellis, one of the senior members of the team. We had learned at about the same time that we were working on an atomic bomb but we had no idea what an atomic bomb was, or more importantly, what it would do. We finally learned what the beast was as we listened to the radio on the front steps of the Bishop Housing when it was announced that an atomic bomb had been dropped on Japan. We, of course, could surmise it was the bomb we had been working on for the last six months, but this turned out not to be true. At that time, we did not know that there was a second bomb design, one that employed enriched Uranium, the “Little Boy” that had been dropped on Hiroshima. Within a couple of days we were told that the second bomb, the Nagasaki bomb, was the one that we had a hand in. This one employed Plutonium instead of Uranium 235. The Plutonium design had a higher yield (equivalent tons of TNT explosive) than the Uranium design. The “Little Boy” produced approximately 15 kilotons (Kt) of equivalent energy, while the “Fat Man” produced a 20 Kt yield.

THE PUMPKIN BOMB

The second part of this story involves the “Pumpkin”. Almost everyone in our generation and the “boomer” generation knows the story of “Fat Man” and “Little Boy”, but few have ever heard of the “Pumpkin”. There were two types of “Pumpkin” bombs, one type was a high explosive aerial bomb used by the U.S. Army Air Forces against Japan. The name “pumpkin bomb” resulted from the large ellipsoidal shape of the munitions and was the actual reference term used in official documents. In total, 486 of the bombs were built and 49 were dropped on Japanese targets by the 509th Composite Group. This was a means of providing realistic training for the B-29 crews assigned to drop the atomic bomb after their deployment to the Western Pacific. The bomb was a close but non-nuclear replication of the “Fat Man” plutonium with the same ballistic and handling characteristics. “Pumpkins” were externally similar to the “Fat Man” bomb in size and shape. The bomb had three fuze wells on the nose into which three Navy MK-219 contact nose fuzes could be screwed. These were arranged in an equilateral triangle around the nose of the bomb while the atomic bomb had four fuze housings.

MAKING OUR OWN DUDS

There was a second type of “Pumpkin”, one that is not mentioned in the published accounts of the atomic bomb. Dr. Oppenheimer had come to the conclusion that the “Fat Man” might fail to detonate because of problems with the fuze or the high-voltage initiation system. To take care of this possibility, it was decided that some of the high explosive “Pumpkins” that looked like a “Fat Man” would be dropped on Japan and that some them would be rigged to fail so that the Japanese would think that a “Fat Man” “dud” would be just another of the large bombs they had found and the Japanese would place a charge on it and detonate it. At least, Dr. Oppenheimer hoped they would. I was instructed to obtain 36 MK-219 Navy bomb fuzes and make them inoperable, but done so that if the Japanese disassembled them they would think they failed because of manufacturing problems. Here was a bomb disposal “type” given the job of making his own UXBs (unexploded bombs, actually 4 of them). This was certainly a unique and unexpected job and of which very few people knew. Of the total 49 “Pumpkins” dropped on Japanese cities, I do not know how many, if any, were the four “duds” that I made. Maybe some Navy Bomb Disposal crew recovered one or more of the intentionally incapacitated “Pumpkins” after the Japanese surrendered. If so, I never heard about it, but I’d sure like to hear about any. In a nut shell, Rooney and I recovered the first “Fat Man” dud, and we were the first to make our own UXBs.
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Navy ship named after China Lake pioneer

Secretary of the Navy Donald Winter announced 2 December 2008 the names of four new Lewis and Clark-class dry cargo/ammunition ships (T-AKE) as William McLean, Mathew Perry, Charles Drew and Washington Chambers. All of the Lewis and Clark ships are named in honor of American explorers and pioneers and are being built by General Dynamics NASSCO shipyard in San Diego, Calif.

The selection of William McLean, designated T-AKE 12, honors Dr. William Burdette McLean (1914-1976), who conceived and developed the heat-seeking Sidewinder air-to-air missile while serving as a physicist for the Navy. During World War II, McLean worked on ordnance equipment and testing at the National Bureau of Standards in Washington, D.C. Following the war, he moved to the Naval Ordnance Test Station (NOTS) in China Lake, Calif., where he led the project team developing the Sidewinder missile from 1945 to 1954. In April 1954, he was appointed technical director, the senior civilian position on Station, a position which he held for 13 years.

McLean’s design of the Sidewinder missile remained as a premier weapon for more than 50 years, until it was updated about nine years ago. The architecture of his design is still a model for success. The newest T-AKE 12 will be the first Navy ship named after McLean.

The T-AKEs are 689 feet in length, have an overall beam of 106 feet, a navigational draft of 30 feet and displace about 42,000 tons. Powered by single-shaft diesel-electric propulsion systems, the T-AKEs can reach a speed of about 23 miles per hour. As part of the Military Sealift Command’s (MSC) Naval Fleet Auxiliary Force, the T-AKEs are designated United States Naval Ship (USNS). Unlike their United States Ship (USS) counterparts, the T-AKEs are crewed by 124 civil service mariners working for MSC, as well as 11 sailors who provide supply coordination. When needed, the T-AKEs can also carry a helicopter detachment.
Daniel Earl Lukens Jr. passed away Tuesday, May 20th, 2008 at Western Arizona Regional Medical Center, Bull Head City, Arizona. He was 72 years old.

Dan was born March 12, 1936 in Kansas City, MO. He was a long time resident of Ridgecrest, CA. He moved to Ridgecrest in the 1940’s with his parents, Jack and Grace Christy. He started working at China Lake in 1953 for the Public Works Department, and through the years supported various programs and groups to include Tomahawk, Fuze and Warhead, and ultimately retiring from the Production Assurance Department in 1988.

After retiring from China Lake, Dan left the Ridgecrest area, moving to Montpellier Idaho, where he owned and operated a successful fencing company. While in Idaho, he met and married his wife, Sandy. They remained in Montpellier until 2001 when his health required a move to a warmer climate, relocating to Bull Head City, AZ.

Dan was always an outgoing person who never seemed to meet anyone he didn’t consider a friend. His love for motorcycles gave him the opportunity to see much of the Western United States. Dan was preceded in death by his father, Daniel Lukens Sr., his step mother Martha Lukens, his Mother Grace Christy, and his step father John ‘Jack’ Christy. He is survived by his loving wife of 17 years, Sandy J. Lukens of Bull Head City AZ, Sister Randy and husband Bob Hansen of Conway MO, his children, grandchildren, and numerous cousins, nieces, and nephews. Information provided by the family.
ROBERT ROWNTREE OBITUARY

Robert Fredric (Bob) Rowntree died peacefully at SunnyBrook Assisted Living in Fairfield, IA on Friday, October 17th, 2008. Known by few in his new home of Fairfield, he was a man of many accomplishments.

Though born in Columbus, Ohio (on February 8, 1930), married Esther Helen Raymond in Columbus (on January 20, 1956), and had his two sons in Columbus, the interim took him throughout this Nation and the world. He graduated from high school in the Philippines, where his father served on the Philippines Reparations Commission, and then travelled alone via cargo ship from Manila with adventures in Indonesia and India, then through the Suez Canal and Mediterranean, to attend Miami University (Ohio), where he completed a double major in mathematics and physics. His education continued with a Masters degree in public administration from Syracuse University, and a Doctorate in physics from Ohio State University.

His college years were interrupted by his service with the US Army, during the Korean War, at Fort Belvoir, Virginia (Headquarters of the Missile Defense Agency), working with famed German rocket scientist Wernher von Braun on the technology of modern military rocket systems.

After his post-doctoral research was completed, Bob took his young family to the Mojave Desert in China Lake, California, where he worked for 27 years at the country’s largest weapons research laboratory for the Department of the Navy. Bob considered his principle career skill to be understanding complex technology and communicating the technology’s critical features to diverse constituencies within the U.S. Government. Much of what Bob did during his professional life was classified, so he would describe his job as helping the rocket scientists with the things they did not understand, such as the reality of working with the bureaucracy of Washington D.C. After retirement, on May 3, 1989, he received the Navy Meritorious Civilian Service Award, one of the highest awards the Navy can confer on civilian employees.

Though a man of tremendous frugality, he never hesitated to spend money on a good meal, travel, or charitable causes. His sense of service was also reflected in his deeds. After retiring, Bob & Esther moved to San Luis Obispo (SLO), CA where Bob volunteered extensively, doing repairs on the SLO County General Hospital (the internal maintenance department was overwhelmed caring for the aging facility), was a member of the SLO County Commission on Aging, and wrote and published newsletters for several local senior organizations. Bob was instrumental in organizing the Society for Counter Ordnance Technology, a national group working to apply technology to the worldwide problem of clearing landmines, and was assistant organizer of the biannual international symposia for this group.

Bob’s family wishes to recognize the tremendously compassionate care Bob received at SunnyBrook Assisted Living in Fairfield, IA.

His remains were cremated. The family plans a small, private service. Memorial contributions can be made to Hospice of Central Iowa, 204 S. Jefferson St., Ste 103, Mt. Pleasant, IA 52641-2161.

He is survived by his wife of 52 years, Esther, residing in Fairfield, IA; their two sons, Walter (Pocatello, ID) and Raymond (Portland, OR); granddaughter Lindsey (Portland, OR) and sister-in-law, Patricia Crim (Fairfield, IA).
"BRAVO ZULU"

This is a naval signal, conveyed by flaghoist or voice radio, meaning "well done"; it has also passed into the spoken and written vocabulary. It can be combined with the "negative" signal, spoken or written NEGAT, to say "NEGAT Bravo Zulu," or "not well done."

There are some "myths and legends" attached to this signal. The one most frequently heard has Admiral Halsey sending it to ships of Task Force 38 during World War II. He could not have done this, since the signal did not exist at that time.

"Bravo Zulu" actually comes from the Allied Naval Signal Book (ACP 175 series), an international naval signal code adopted after the North Atlantic Treaty Organization (NATO) was created in 1949. Until then, each navy had used its own signal code and operational manuals. World War II experience had shown that it was difficult, or even impossible, for ships of different navies to operate together unless they could readily communicate, and ACP 175 was designed to remedy this.

In the U.S. Navy signal code, used before ACP 175, "well done" was signaled as TVG, or "Tare Victor George" in the U.S. phonetic alphabet of that time. ACP 175 was organized in the general manner of other signal books, that is, starting with 1-flag signals, then 2-flag and so on. The 2-flag signals were organized by general subject, starting with AA, AB, AC, ... AZ, BA, BB, BC, ... BZ, and so on. The B- signals were called "Administrative" signals, and dealt with miscellaneous matters of administration and housekeeping. The last signal on the "Administrative" page was BZ, standing for "well done."

At that time BZ was not rendered as "Bravo Zulu," but in each navy's particular phonetic alphabet. In the U.S. Navy, BZ was spoken as "Baker Zebra." In the meanwhile, the International Civil Aviation Organization (ICAO) had adopted English as the international air traffic control language. They developed a phonetic alphabet for international aviation use, designed to be as "pronounceable" as possible by flyers and traffic controllers speaking many different languages. This was the "Alfa, Bravo, Charlie, Delta..." alphabet used today. The Navy adopted this ICAO alphabet in March 1956. It was then that "Baker Zebra" finally became "Bravo Zulu."

Source: Naval History Center Website

WILLS AND TRUSTS

The China Lake Museum Foundation now has a process by which you can include consideration of the Museum as a part of your will or estate. It is a fairly simple and straightforward process which involves adding a sentence stating your attention to your will or trust with an appropriate witness (not a Foundation officer or staff member). Please consider providing a gift to the China Lake Museum Foundation in your will and/or estate. Gifts can include monetary (fixed dollar amounts or percentage of residuary estate), property items, artifacts. Tax benefits can be realized through the reduction of the size of your taxable estate. Family needs are met first. Special instructions can be stated. Otherwise the donation will be applied to the general fund, which can be used to support new facilities, exhibits, operations and education initiatives. If you have any questions, please call the Foundation office. The process was provided courtesy of the law office of Steve Boster.
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*Great Christmas Gifts for all members of the family*

Children’s books and toys

Assorted T-Shirts, Sweatshirts and Polo Shirts for all sizes

DVD’s, China Lake Memorabilia and much more!

We now have China Lake Logo Patches for sale. Purchase the individual logos from the 1940’s to now or buy the whole set!
Congress Renews IRA Rollover Provisions

The IRA charitable rollover was a tax incentive in effect in 2006 and 2007 that allowed individuals aged 70-1/2 and older to donate up to $100,000 per year from their Individual Retirement Accounts (IRAs) and Roth IRAs to public charities without having to count the distributions as taxable income. This provision was extended as part of the "bail-out" legislation for distributions made in 2008 and 2009. For further details, please check with your tax advisor.

The China Lake Museum Foundation appreciates your continuing support of the CLMF, and now is an especially important time for us since we are raising funds for the purpose of moving the Museum to a building in Ridgecrest and all the associated costs of that, including supporting the construction, completing the Museum displays on the inside, and raising additional monies through professional solicitation organizations.

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.

NAVAL HISTORY CENTER RENAMED

OPNAV NOTICE 5400 dtd 01 DEC 2008 promulgated the renaming and revised mission of the NAVAL HISTORICAL CENTER. The new title of the organization is the NAVAL HISTORY AND HERITAGE COMMAND. This action changes the name and mission of the Naval Historical Center as that activity has grown from a single site at the Washington Naval Yard to a command responsible for managing all eleven official Navy museums located throughout the United States. The changes also reflect the importance of naval heritage to the Navy's mission. There is no change in manpower, facilities or locations brought about by this change.

The Revised Mission: To collect, preserve, and protect artifacts, documents, and art that embody naval history/heritage by professional research, analysis, interpretation, products and services; to make history and heritage "come alive" for Sailors/Marines to enhance readiness and esprit de corps; to recall America to its dependence on the oceans and the need to maintain a strong Navy and Marine Corps to protect its citizens, their freedoms, and commerce.

Notably, the Director, Naval History and Heritage Command is designated as an Echelon 2 Command, and reports to the Chief of Naval Operations.