



James J. (Jim) Bramble, 99, a longtime resident of Los Alamos, passed away peacefully on Thursday April 25th. He was surrounded by family at the Los Alamos home of his grandson James Chrobocinski. Jim was born February 1, 1920, one of six sons of Lewis R. Bramble and Winifred T. (Kelly) Bramble of Phillips, Wisconsin. Jim grew up in Phillips, Neillsville, and Janesville, Wisconsin, and graduated from Janesville High School. Jim attended Milton College, where he met his future wife, Shirley Ann (Pat) Sveum, whom he married in 1941.

September 1942 marked the birth of son, William, and Jim's enlistment with the U.S. Army as part of the WWII effort. The Army sent him to the mechanical engineering program at Ohio State University and then on to the Manhattan Project in Los Alamos, where he served with the Special Engineering Detachment (SED) until the war's end. During the Manhattan Project years he spent evenings in the lab with Enrico Fermi and worked in the implosion explosives group, an effort managed by Walter Koski and George Kistiokovski. In 1944 Jim was involved in the first serious radiation accident at Los Alamos, which he and three others thankfully survived.

After the war, Jim returned to the Laboratory at Los Alamos as a civilian employee. Wife Pat and son William joined him in 1946, in what was then a closed city. Daughter Jean Ann was born in 1950. Jim worked for most of his career in the Laboratory's W-Division and served as project engineer for devices that were tested in the South Pacific and Nevada. He is credited with significant work on nuclear weapons design. Jim continued with the Laboratory until his retirement in 1980.

Jim was a star infielder for the Los Alamos Bombers baseball team in the 1940s and 1950s. He was an avid outdoorsman, fisherman, and hunter, and took full advantage of living in Northern New Mexico. He was an avid trap shooter. In 1972 he held the highest handicapped average in NM and was fourth in the nation. He was a key member of the Los Alamos Sportsmans Club and managed the Trap Shooting Division for over 40 years. In 2005, after years of training and mentoring many trap shooters, he was inducted into the NM Trap Shooters' Hall of Fame. His grandsons followed him in the sport and grandson Randy Foster remains an active nationally ranked trap shooter.

Jim was preceded in death by his loving wife Pat in 2010, his daughter Jean Foster in 2012, and all five of his older brothers. Grandson James Chrobocinski and wife Jackie looked after Jim in his declining years and provided a "grandpa suite" in their Western Area home, where Jim spent his final days. Jim is survived by son, Dr. William Bramble Sr., and wife Barbara of Albuquerque. Surviving grandchildren are Dr. William Bramble, Jr. and wife Sarah of Washington, D.C., Anne Marie Murdock of Olympia, WA, Michelle Fellers and husband Rich, of Oregon City, OR, James Chrobocinski and wife Jackie, Randy Foster and wife Shayna, and Jennifer King and husband Brad all of Los Alamos, and Joe Foster and wife Erica of Aurora, CO. Jim is also survived by 16 great grandchildren, and 7 great, great grandchildren. He was well loved and respected by friends and family alike and will be greatly missed by all.

Jim will be laid to rest in Guaye Pines Cemetery at 1 pm on Saturday May 4th. Friends and family are welcome to attend. A memorial service will be scheduled on Father's Day weekend in June to allow out of town friends and family to attend. In lieu of flowers the family requests that donations be made to the Juvenile Diabetes Research Foundation (JDRF.org) in Jim's name or to another charity of their choice. The family of James J. (Jim) Bramble has entrusted the care of their loved one to the DeVargas Funeral Home & Crematory of the Espanola Valley. 505-747-7477-www.devargasfuneral.com

Life Story of James Joseph Bramble

James Joseph Bramble

Born at home February 1, 1920

Phillips, Wisconsin

Father: Lewis R. Bramble, born January 30, 1880 in Seneca NY

Mother: Winifred T. Kelly, born December 6, 1880 in Rensselaer, Indiana

Five brothers: Shirley, Gordon, George, Leon, and Larry

Early Life in Wisconsin

James Joseph (Jim) Bramble was born in Phillips Wisconsin on February 1, 1920. His parents were Lewis R. Bramble and Winifred Kelly. He was the 6th of six sons for the couple (no daughters). The sons included: Shirley, George, Gordon, Leon, Larry, and Jim; from oldest to youngest. Jim lived in Phillips for 2 years where Louis worked in the lumber industry. Then the family moved to a farm near Neillsville, Wisconsin to try their hand at farming.

Jim lived for 6 years at the Neillsville farm and attended a country school for grades 1-3. He enjoyed fishing, .22 shooting, and playing baseball. He enjoyed the deep snow. On blizzard days a parent would come to the school and give the students a ride home on a big horse-drawn sleigh. In the spring the family made maple syrup, gathering sap from maple trees and boiling it in a big pan outdoors. Brother Larry once fell into the pan and received quite a burn and a subsequent prolonged treatment.

In 1928 the family gave up farming and moved to Janesville, Wisconsin, where work was more often available through the Fisher Body Plant and family entrepreneurial efforts. In the depths of the Great Depression, the family had a small lime crushing operation which the boys helped Lewis with. Jim, the youngest son, had the job of making the morning coffee. Otherwise he spent a good deal of time hunting for arrowheads (a pastime that stayed with Jim for life). In Janesville, Jim attended 4th grade through high school. Jim was a good student but didn't take much math or science in high school. He played the violin, excelled in sports, and graduated at 17 in 1937.

Jim worked at odd jobs until the fall of 1940 when he entered Milton College in Milton Wisconsin. He was the first in his family to attend college and was convinced to attend by a visiting representative of the college who had seen his high school record. He completed one year at Milton and lettered in basketball and baseball. He remembers that he took some science, math, and drafting courses at the college and liked them.

Jim met his wife Shirley Ann Sveum (or Pat, as was her nickname) at Milton College (Milton, Wisconsin) during the Fall of his freshman year (1940). He and Pat became fast friends and were subsequently married in August 1941.

Pat was the daughter of Alfred Sveum and Alberta Chappell of the Stoughton area in Wisconsin. Alberta (Chappell) Sveum was the daughter of Bert Chappell and Lilly Chappell. Bert's ancestors included Porter Chappell and Benjamin Chappell who fought for the Union in the American Civil War. Alfred Sveum was the son of Norwegian immigrants Ole Sveum and Anna Sveum of Stoughton Wisconsin. Ole and Anna had multiple children including Alma, Rose, Hank, Henry, Alfred, Mike, and Agatha.

To support the young couple Jim worked for a year as a draftsman at Highway Trailer and at the Beloit Iron Works (both in Beloit, Wisconsin) for the next year or so. With the outbreak of WWII and its overwhelming need for military manpower, most men his age were by then being drafted or enlisting in the armed forces.

Uncle Sam Calls

Jim enlisted with the U.S. Army in September 1942, the same month that his son, William (Bill), was born in Beloit Wisconsin. Jim was 22 at the time and enlisted at Milwaukee Wisconsin into one of two regiments that were recruiting, the 304th and 305th Ordinance Regiments, arbitrarily choosing the 305th. Brother Gordon had suggested an engineering (ordnance) regiment as preferable to a regular combat regiment and this decision eventually led Jim to a lifelong career in the engineering field.

The members of the 304th were called up in the fall of 1942 and the 305th in December. Someone in the War Department had the bright idea that since these regiments were headed to North Africa, it would be best to run the men through an abbreviated 30-day basic training in the States and then have them complete their basic training in-theater. That way they could learn more about the desert environment they would be fighting in. This decision met with catastrophic results in early 1943 when the Germans, under Rommel, parachuted experienced troops onto the location of the marginally trained 304th and slaughtered a large percentage of them.

Jim was called up in December 1942 to the 305th Ordinance Regiment and was sent to Santa Anita, California for basic training at the former Racetrack. Wife Pat and new son William joined him in California during basic training. As the culmination of an abbreviated 30-day basic training, his unit had a bivouac (campout) on Kellogg's Ranch in Death Valley, California in the winter. The weather unexpectedly turned very cold and the troops weren't equipped for that level of chill. In fact, each man had a poncho which could be joined with another to make a crude pup tent and a light wool blanket (thus two for each tent). These blankets were not sufficient for a night that dipped to the lower 20s Fahrenheit. As a consequence, Jim caught pneumonia. Thus he was in the hospital when the 305th received word that its companion unit (the 304th) had undergone over 50% casualties in North Africa after the 30 day abbreviated training they received. The 305th then had their training period extended to prevent another catastrophe in North Africa. They started on an extended basic training at that time. However, by this time, Jim was in the hospital with pneumonia and he missed out on the further

training and subsequent participation with the 305th. He was subsequently reassigned to a new 305th unit with recruits from Tennessee and awaited the start of his training.

A New Opportunity for College Studies

In March Jim signed up for a test that was advertised on the camp bulletin board promising college attendance for high scorers. His test score was incorrectly reported as very low, but a sharp-eyed corporal in charge of testing saw that his high freshman college grades in math and science didn't match his test result. Jim's test (probably an early version of the Army General Classification Test (AGCT)) was again machine scored. This time Jim scored 144 (a very high score) and was admitted to the college program, an unusual program at this time of war when manpower was desperately needed at the front. The relationship of the college program to the Manhattan Project was not generally known at this time, but an aim of the program was to produce badly needed engineers for the secret wartime project.

In April 1943 Jim was assigned to a remedial course addressing mathematics and sciences at the University of Utah in Salt Lake City since he had only one prior year of college. He was given his orders to travel to Salt Lake City and assigned to study at the University of Utah. Orders came in the afternoon and he was to depart by train to Utah on the following morning. He asked to be able to see his wife that evening, but was not allowed to and had to say goodbye by telephone. In true Army fashion, he was assigned to view a required venereal disease film that evening and, despite the circumstances, was not permitted to skip it. He left for Salt Lake City early the next morning and wife Pat and son Bill followed a few days later by train. Once in Salt Lake, the young family boarded in the home of an older Mormon couple who were especially considerate of the new baby and who generously shared their dinners with the newcomers. The assignment in Salt Lake was only for 30 days and Jim needed a good bit of refresher to stay in the program. One day Jim found himself seated next to the President of the University of Utah who seemed familiar with his background and record at the university. The President told Jim that he wanted him to succeed and would keep him at the university as long as he was permitted. The president asked that Jim sign up for all the remedial courses he could get in order to be successfully transferred to the next portion of the engineering program at Ohio State University. Jim did as requested and made a good bit of academic progress at Utah.

In May 1943, at 23 years of age, Jim joined the program at Ohio State University (OSU), majoring in Mechanical Engineering. Wife Pat and son Bill joined him there. They took an apartment in Columbus, Ohio, near the OSU campus. Pat found wartime work at the Curtiss Wright Airplane Factory in Columbus, Ohio in quality control for fighter plane manufacturing. Jim spent the next three terms taking fast-paced mathematics courses (up through calculus and differential equations), engineering courses such as thermodynamics and metallurgy, and various other math, science, and engineering courses. He was making good progress towards a bachelor's degree, but in March 1944 most of the GIs in the mechanical engineering program at OSU were suddenly pulled from the program. They were needed for work on the Manhattan Project and elsewhere. For the Manhattan Project, half were sent to Oak Ridge, Tennessee and half to Los Alamos, New Mexico; both were Manhattan Project sites. Other unfortunate souls in the program were sent to the Western Front and were destined to be involved in the Battle of the Bulge which was a dangerous assignment indeed.

Work on the Manhattan Project

In March 1944, at 24 years of age, Jim was placed in the Special Engineering Detachment (SED) at Los Alamos with quite a number (perhaps 800 to 1,000) of army engineers assigned there. As he recalls, there were some 16-18 barracks in Los Alamos housing these personnel. Los Alamos, the design and development hub of the Manhattan Project was administered by General Leslie Groves and the lead scientist was J. Robert Oppenheimer. The city was then a closed, secret community. In addition to the military personnel -- scientists, technical staff, support staff, and graduate students were present in the city. A few top scientists were allowed to bring their wives and children, but few of the personnel were given accommodations for their families during the war. A small number of civilian technical personnel, and locally-hired building, maintenance, and support personnel also worked at the secret laboratory and commuted from nearby communities in Northern New Mexico. There were no housing accommodations available for Jim's wife Pat and his young son at Los Alamos, so Pat and Bill lived with relatives in Wisconsin for the remainder of the War. They were able to visit Jim in Santa Fe a time or two during this period, but never saw Los Alamos and wife, Pat, was unaware of Jim's reason for working in New Mexico.

Jim was assigned to one of the SED barracks at Los Alamos and to the "explosives group" headed by Walter Koski who worked under the tutelage of the noted Ukrainian-born physicist, George Kistiakovski. Jim's job was to use high explosives to systematically blow up metal tubes using various surrounding explosive configurations and detonation sequences. High speed photographs were taken of each test to see if the tubes came down evenly to the center as a result of the explosions. This work was conducted at the Los Alamos R site and was basic to learning about the implosion mechanism eventually used for many atomic devices. Jim worked on this project until September 1944 when his work assignment was changed to counter intelligence.

Counter Intelligence was a program headed by Larry Bear, formed to do counter-intelligence work at Los Alamos and to ultimately to fan out to critical manufacturing sites across the country to weed out wartime turncoats and saboteurs. The latter activity was in essence precluded by the soon to be ending war, but in the meantime, Jim was assigned to work under Major DeSilva, the head of Security at Los Alamos. Jim's small unit was to stand guard anytime the precious U235 or Plutonium samples were taken from the safes that stored them to prevent unauthorized use or theft of the materials. Jim's most frequent assignment was to be present in the evenings when Enrico Fermi (something of a night owl in his laboratory work) conducted experiments with some of the fissionable material at the Omega Canyon site. Dr. Fermi was a Nobel Prize winning Italian physicist who went by the alias Rick Farmer. To begin with, Jim did not know who Fermi was, but he enjoyed visiting with him as they waiting for data to emerge from his experiments. However, one day while with Fermi, Jim picked up a small physics book from the table which included a photo of Fermi and described some work of the Nobel

Prize winning nuclear physicist, Enrico Fermi. Jim was somewhat amazed and overwhelmed, and afterwards, Jim was more deferential to his new friend of so many evening experiments, though Fermi never encouraged that behavior.

Fermi's experiments involved arranging dice-sized pieces of uranium and other materials and taking readings of the resultant radiation using Geiger counters. Something of a follow-up to his experiments at The University of Chicago that tried to assess the resulting spike in radiation caused by the proximity of these isotopic metals. At other times Fermi would drop a "slug" of U235 through a pile of similar materials from various heights and at various speeds, again looking for spikes in radiation as the materials passed by one another. This work was important to the ultimate development of the atomic bomb in that it assessed how the materials interacted and could produce a chain reaction under certain conditions.

A Near-Death Experience

At times Fermi was accompanied in the laboratory by graduate students brought to Los Alamos for the Manhattan Project. Sometimes the graduate students conducted experiments by themselves and Jim or one of the other military personnel from his unit had to be present when the fissionable material was out of the safe. One such day the work of three graduate students almost cost Jim his life and resulted in his having to change assignments so as not to get additional radioactive exposure. On this particular occasion at the Omega Site, the blocks of material were arranged in a 55 gallon barrel and water was introduced from an entry point at near the bottom of the barrel. What the scientists apparently did not understand was that if the water level was brought completely above the stack, inundating it, the pile would go super critical. They let in too much water and the Geiger counters went off the chart. One of the scientists turned on the barrel's water drain to eventually snuff the reaction as they all ran out of the building. Even behind a nearby concrete wall the readings were very high. All present subsequently exited the building and assembled behind a nearby gravel pile where readings were much lower and they awaited help.

The four men (Jim and graduate students Hammel and Biestline and one other young scientist) were taken to the hospital. It was estimated that the men had received 125,000 Roentgens, and would all die within a few days. Blood tests were taken every four hours. The men's white counts started at an exceptionally high 30,000. All wrote their farewell letters to loved ones and all were advised to expect to die a painful death. As it turned out, however, the dosage received, while high, was not fatal. The white counts for the men returned to a more normal 6,000 in a few days. This was the first serious radiation accident at the Laboratory. It preceded by a few months the occasion of the first fatalities due to radiation exposure at the Laboratory.

Jim, and presumably the others in this accident, was followed for years to look for complications from the accident. But the immediate result of the accident was that Jim was told he needed to change jobs at the Laboratory and not be near radiation sources. As a consequence, he took a job in the SD2 division as a draftsman where he focused on designing specialized laboratory equipment for the remainder of the war years.

The End of World War II

In August 1945 the Manhattan Project successfully tested an atomic device at White Sands, New Mexico. Jim and some of the other Los Alamos staff who were not able to be at the test site, watched the blast from State Road 4, the road leading from Los Alamos to the Valle Grande Caldera. From their vantage point they could clearly see the light of the blast some 200 miles distant. That blast proved the success of the project. Later, atomic bombs were dropped on Hiroshima and Nagasaki, Japan prompting the end of WWII. The grand exit began soon afterwards at Los Alamos. Now that the project was completed any future role of Los Alamos was yet to be defined. Most of the internationally known scientists returned to their universities and the assigned army troops were mustered out of the Army. Jim was honorably discharged from the Army in April 1946 at Fort Bliss in Texas.

Prior to leaving his assignment at Los Alamos Jim was offered the chance to return to Los Alamos as a civilian employee, but he took a couple of months off to reunite with his wife and son and consider whether to live in New Mexico or try to find work closer to his home in Wisconsin. He soon learned that with something like 13 million military men and women returning to the States and looking for work, well-paying alternatives to his opportunity at Los Alamos were scarce.

Start of a Family Life in the New Community of Los Alamos

After a bit of sputtering, it was decided to continue the work at Los Alamos, post-WWII under Norris Bradbury. Most of the world class physicists moved back to their universities and research institutes, but a few remained. Other scientists and technical support staff were added as the role of the laboratory emerged as the nation's nuclear weapons research and development laboratory. Sister laboratories were established at Oak Ridge, TN and Hanford, WA for other facets of weapons development. In addition to the needed laboratory facilities in New Mexico, a city needed to be built out of the wilderness to house the families of the growing workforce. Jim, wife Pat, and young son Bill, started life in Los Alamos in half of a Quonset hut (complete with common outdoor shower facilities) until some inexpensive housing could be put up in the area. After a year or so, they were able to move into a MacKey house – a plywood two-bedroom house that at least had self-contained plumbing, but was stark and small by modern housing standards. Jim spent his time (often six days per week) working as a draftsman for laboratory equipment in the SD shop of the laboratory.

When Jim had spare time, he played baseball in a local league. The teams played in ballparks located where the city center later evolved. They were later moved to what became North Community. Eventually, the teams were combined into a single team, the Los Alamos Bombers (what could be more appropriate?). Jim was the star shortstop and third-baseman for the team for about ten years. He often led the league of Northern NM teams in batting average and was an accomplished fielder. Jim met lifelong friend Harry Smith through the baseball team. Jim also enjoyed hunting and fishing opportunities

in the Los Alamos area. Wife Pat worked for a year or so as a secretary for the Zia Corporation (the company which managed the city maintenance). She later quit that job to focus on homemaker and mother duties and did not work outside of the home again. Bill began kindergarten and elementary school. Los Alamos developed a ski area at Sawyer's Hill. A small community center was constructed with basic shopping facilities and, even a movie theater where you could watch the latest serials and newsreels as well as current movies for a quarter.

Life continued at Los Alamos in the same pattern for the next 5 years. The family did move to better laboratory housing in the "North Community" on 37th street. The new home was a sunken- living room, three-bedroom, house that was an improvement over the MacKey house, but it had a cold living room in the winter due to the way it was constructed. Jim continued with his career and leisure activities. Pat continued with homemaking and Bill with school. The biggest even of this period was the birth of daughter Jean Ann in 1950 and the premature birth and demise of a second daughter, Linda Kay, the following year.

Development of a New Weapon

In February 1952 Jim had the opportunity to work on the development of the first hydrogen device. The family moved to Albuquerque so that Jim could work with American Car and Foundry, which was developing the containment device for the test of this precursor to the hydrogen bomb. The assignment lasted less than a year and the family moved back to Los Alamos in October 1952 with Jim joining W-Division at the laboratory, the weapons division. Jim now had earned enough employment points to move into better laboratory housing in the Western Area and the family took up residence on Trinity Drive, then 47th street, and 44th street, and finally at 4525 Trinity Drive. Jim's new assignment focused on atomic and hydrogen weapons development and he grew from draftsman to project engineer for weapons development. In his new role he developed new weapons that were tested either in the South Pacific in 1956 or at the Nevada Proving Grounds in 1955. For the summer of 1955 the family lived in a camping trailer in Las Vegas Nevada. Jim worked at the Nevada Proving Grounds during the week, but he joined the family at the trailer park on the weekends. The highlight for young Bill was watching the detonation of one of the atomic bombs from a nearby mountain top. Bill also did a lot of swimming because of the Nevada summer heat and, as a result, later qualified for the Los Alamos High School swim team. In the Pacific Jim designed a special device, code named Dakota, a hydrogen device that was exploded near Eniwetok atoll.

Later Career

Life continued in this same way for the next two or so decades. Bill and Jean grew to adulthood, graduated from high school in Los Alamos, and went on to college. Bill earned a Ph.D. in research and statistics in the social sciences from the University of Chicago. Jean earned a nursing degree. They both married and had children – three for Bill and four for Jean. Jim continued his work developing nuclear weapons. Unfortunately for the readers of this story, his work was top secret and can't be described in detail here. However, it can be noted that for his last 10-15 years, he worked on the design of a prominent U.S. nuclear weapon, the B-61. It has been termed the workhorse of the thermonuclear weapons, has continued to be modified and upgraded over the years. It has numerous applications. While Jim worked in W-1 he worked alongside Nick Armenis, Robert Pruitt, Jack Johnson, Neill Davis, Jay Wexler, and John Hopkins.

Jim continued with his interests in outdoor sports, but retired from active baseball in his mid thirties. He met a lifelong friend through his work in Albuquerque, John Hopkins. John also moved to Los Alamos and the two families became fast friends. John and Jim often played contract bridge together and became quite good at it. Sometimes Jim and Pat played together and reportedly did even better. Jim also developed an interest in trap shooting in the 1960s and introduced three grandsons (Randy Foster, Joe Foster, and James Chrobocinski) to the sport. They continued with the sport for years. Jim won many NM state events and Randy still shoots competitively at a national level.

The following statement from the NM Trap Shooters Association accompanied his 2005 entry into the NM Trapshooters' Hall of Fame.

"In his trapshooting career Jim Bramble has registered over 60,000 targets and has shot at every club in the state, including three that no longer exist. He has shot at clubs at Arizona, Nevada, Ohio, Alaska, Wisconsin, Texas, Tennessee, and Colorado. In 1972 he held the high handicap average, which was the fourth highest in the nation. In 1984 he won the state handicap title.

Jim was instrumental in creating the Los Alamos Sportsmen's club and has been a member of other clubs over the years. Jim was the trap chairman in Los Alamos for over 40 years. During this time he organized and held a number of registered shoots. He also instructed and mentored countless trapshooters. Many of these continued on to register birds in competitions, and several became state champions. If one just took into account the support and contributions he has made to his grandchildren, they have registered over 90,000 targets that have been shot all over the country. These targets, the registration fees, the option fees, the shells, the guns, the practice rounds, the motels, the gasoline, the food – all of it paid for by Jim Bramble.

As a competitor, James Bramble has won his share of trophies, and as a contributor to the sport he has earned and truly deserves this recognition."

Retirement

Jim retired from Los Alamos National Laboratory in 1980 at the age of 60. He said he was encouraged to do so by Pat, who felt he should retire while he still had his legs under him. This was good advice as the couple had the means for a quality existence, a home they purchased from the government and owned outright, and a pension from the California State Employees Retirement System (SERS). SERS was available because the organization operating the laboratory at the time was the University of California (UC) and UC was included in SERS. In their early retirement years, Pat and Jim enjoyed activities with their friends in Los Alamos, their expanding family, contract bridge, trap shooting, their backyard garden and fruit trees, and outdoor sports. Given their freedom from work schedules they did some travel – through the Caribbean

by sailboat, to Guaymas, Mexico, to London, to Hawaii, to Florida and Alaska to visit son Bill and around New Mexico and around the Southwest.

Sadly Pat passed away in 2010 at the age of 89 and daughter Jean in 2012 at 61. They were both sorely missed by Jim and the family. Jim was blessed with extraordinary longevity and lived into his hundredth year. He had plenty of family around to love and support him to the end. In his final years he lived with grandson James Chrobocinski (Jean's eldest son) and wife Jackie in Los Alamos. Granddaughter Jennifer King, husband Brad and their four boys also live in town. Bill lives close-by, in Albuquerque. He and wife Barbara were usually in Los Alamos with Jim every other week. Farther away are grandsons Bill Jr., Randy, and Joe and granddaughters Anne Marie and Shelley who periodically visited by car or airplane. There are now 16 great grandchildren and 7 great, great grandchildren descendents.

Jim is loved and respected by his family. He was model, mentor, companion, inspiration, supporter, and loving spouse, parent, and grandparent. Jim was successful in his career. He was well liked by his friends and contemporaries, most of whom he out-lived. He made quite a journey from Wisconsin farm boy to being a part of the most technologically advanced program of its time to living a long and eventful adult life and solid retirement. Jim's legacy is that he encouraged and supported those in his large resultant family who are involved in all manner of careers and sports. He remained proud of his family to the end, and his family is indeed very proud of him. He will be missed by all.