

### Museum slates trip to bristlecones on Aug. 9, 10 weekend

The Maturango Museum's annual trip to the Bristlecone Pine Forest — home of some of the world's oldest living trees — will take place on the weekend of Aug. 9 and 10. Campers who would like to join the group can camp in the Grandview Campground on the road to the Bristlecones Saturday night. All those who participate in the trip are to meet at the Shulman Grove at 10 a.m. Sunday and proceed from there. The twisted and gnarled bristlecones show the effect of up to 5,000 years of wind and weather, making them a photographer's delight. Sturdy shoes are a must for anyone planning to join the field trip. Recommended also are a sack lunch, sunglasses, and a light sweater or windbreaker because even midsummer temperatures at such a high elevation can be cool.

The Bristlecone Pine Forest can be reached by driving north on Highway 395 to Big Pine, turning on a well-marked road (Highway 168) and following it to the turnoff for the bristlecone area. The drive from Ridgecrest to the bristlecones takes about three hours. Those planning to attend are asked to contact the museum secretary by calling 446-6900 no later than Friday, Aug. 8.

### Sea Cadet Squadron swimming party planned at CPO Club

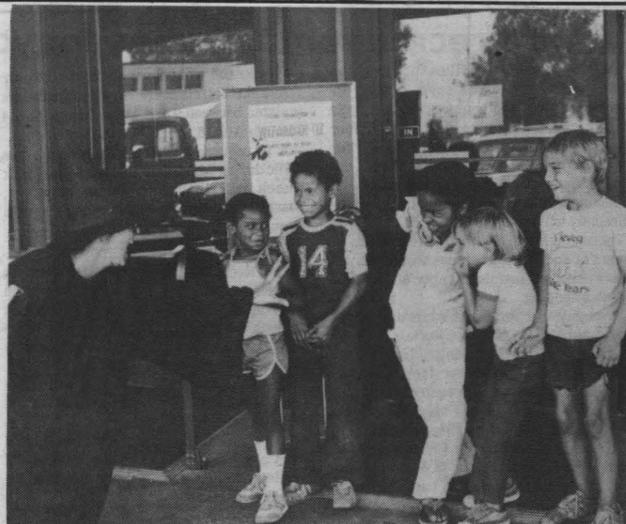
A swimming party for current and prospective members of the Naval Weapons Center Sea Cadet Squadron will be held on Friday, Aug. 8, starting at 7 p.m. at the Chief Petty Officers' Club swimming pool. Parents of Sea Cadets and boys and girls 14 through 17 years of age who are interested in joining the squadron are invited to attend this affair, which has been arranged by the Indian Wells Valley Council of the Navy League.

Swimming from 7 to 8 p.m. will be followed by a snack of hamburgers, hot dogs, and potato and macaroni salads. There is a charge of \$4 each for adults who attend, and reservations, which can be made by calling Tom Andrews, Jr., at either 446-5763 or 446-5914, are due no later than Sunday, Aug. 3.

Young people or their parents interested in obtaining information about the Sea Cadet program can call George Myer, the Navy League's second vice-president and chairman of the Sea Cadet program, at 375-2004.

### Books at Center Library open wide vistas to readers

By Elizabeth Wilkie  
The Center Library invites its readers on an arm-chair journey to visit history's most wonderful architectural monuments. The "Wonders of Man" is an 18-volume set recently added to the library's collection. This is a series of illustrated histories, each focusing on a well-known monument. Each volume is divided into three major sections: a lively and informative history of the monument, written by a distinguished and authoritative writer, illustrated in color and black and white; a section of literary excerpts about the monument; and a comprehensive reference section. Monuments included in the series are: The Statue of Liberty, The White House, The Colosseum, Tower of London, The Taj Mahal, Hagia Sophia, The Kremlin, The Alhambra, El Escorial, The Forbidden City, Venice, Kyoto, Notre-Dame de Paris, Versailles, The Pyramids and Sphinx, Dome of the Rock, The Parthenon, and Teotihuacan. Readers are invited to choose their destination, sit back, and enjoy a breathtaking journey through the "Wonders of Man."



BOO! — Young customers of the Navy Exchange retail store's "Over the Rainbow" sale last weekend retreated in delighted terror from the Wicked Witch (Sue Vacca), who appears in the CLOTA production of "The Wizard of Oz." Besides aiding in the NEX promotional sale, "Wizard of Oz" cast members also sold tickets for their production that opens a five-performance run tonight.

### Curtain will go up tonight on CLOTA production 'Wizard of Oz'

The curtain will go up tonight at 7:30 at the Burroughs High School lecture center on the Community Light Opera and Theatre Association (CLOTA) production of the well-known musical "Wizard of Oz."

Repeat performances are scheduled at 7:30 p.m. Saturday and at 2:30 p.m. Sunday, as well as on Friday and Saturday, Aug. 8 and 9 at 7:30 p.m.

Cynthia Eaton, a 16-year-old Burroughs High School student, will appear in the feature role of Dorothy, who is escorted by a group of Munchkins ("little people") to the Emerald City in the Land of Oz.

Other major parts enacted by young people in this CLOTA production are those of the mayor and the farmer, who are portrayed by Scott Williams and Ricky Vaughn, respectively.

All told there are 15 Munchkins and 20 adults in the cast of CLOTA's production of

"Wizard of Oz," which is directed by Rebecca Conner.

Elena Vitale will be seen as the wicked witch, Tim Varnhagen is the lion, and Gregory Cote has the role of the scarecrow. The actors and singers are accompanied by an 8-piece orchestra.

In addition to Williams and Vaughn, other young people who appear on stage as Munchkins are Michelle Brauer, Melissa Cleland, Angel and April Hamlin, Wendy Hammond, Timothy Matson, Tanya Rockdale, Jay Rusciolli, Lynn Smith, Chrissy Stout, and David Williams.

"There is something special about young people in their energy and enthusiasm," the director stated. "I hope local residents will come to see the 'Wizard' and share in the excitement of these young performers," Ms. Conner said.

General admission is \$3, except for students, senior citizens and enlisted military personnel, who will be admitted for tickets priced at \$2.50 each.

Tickets can be purchased in advance from members of the cast or in Ridgecrest at the Gift Mart and the Ridgecrest Pharmacy. They also will be on sale at the BHS lecture center box office prior to each performance.

### Sale of recreation items set Aug. 8, 9 at Community Center

A clearance sale of merchandise from the Hobby Center, the Auto Hobby Shop, and the Golf Pro Shop will be held on Friday and Saturday, Aug. 8 and 9, in the Community Center's Panamint Hall.

This event, sponsored by the Recreational Services Department, will be held from 2 to 8 p.m. on Aug. 8, and from 10 a.m. to 2 p.m. on Aug. 9.

The sale is open to all active duty and retired military personnel, as well as Department of Defense Civil Service employees.

Merchandise up for sale will include hats and clothing from the Golf Pro Shop; artists' supplies, and model railroad kits and supplies from the Hobby Center; and tools, air filters and tire chains from the Auto Hobby Shop.

Prices will be reduced from 20 to 50 percent during this special clearance sale.

### Metal Trades Council

The Indian Wells Valley Metal Trades Council will hold its next regular monthly meeting on Thursday, Aug. 7, at 65-B Halsey. The meeting will begin at 7:30 p.m.



### Commissioned Officers' Mess

Tonight for those members and guests who wish to partake of a seafood meal, the Commissioned Officers' Mess will have as its main items on the menu a fisherman's delight in seafood choices.

Next Thursday is Italian Night in the COM dining room, and those in attendance may order spaghetti and meat sauce (all one can eat) for \$2.95 for adults, and \$1.50 for children.

A steak cookout on the patio is planned for next Thursday, Aug. 7. Top sirloin, country potatoes, corn-on-the-cob, and hot biscuits and honey will be the main items on the menu.

Dinner on Tuesday and Thursday will be served from 5 to 9 p.m.; and tonight from 5 to 10 o'clock.

Another gala Membership Night is in store for COM members and guests on Saturday, Aug. 9.

From 6:30 to 9 o'clock the COM dining room staff will serve a full course dinner consisting of a green salad, Mariner Cornish hen, baked potato, vegetables, and coffee or tea.

On hand to play for the listening and dancing pleasure of COM members and their guests will be Frederick & Co., a Los Angeles-based musical group that specializes in "oldies but goodies." Dancing will begin at 8 o'clock and continue until midnight.

The cost of this evening of dining and dancing is \$4 for COM members and their spouses, and \$5 for guests. Reservations, which are due no later than 5 p.m. next Friday, Aug. 8, can be made by calling the COM office at 446-2549.

### Chief Petty Officers' Club

The Country Associates, a local 5-piece combo led by Bob Lemon, will be back for a return engagement tonight from 8:30 to 12:30 at the Chief Petty Officers' Club.

CPO Club members and guests are invited to enjoy dinner from 6 to 9 o'clock, selecting from a menu that will feature prime rib of beef or Icelandic cod as the main entrees.

Plans also were announced this week for the CPO Club's annual Hawaiian-style luau that will be held on the evening of Saturday, Aug. 30.

Feature attraction of the evening will be a Polynesian Extravaganza that is to be staged by Tiara Productions, Inc., of Huntington Beach, Calif.

The dancing, music and stage show, which is scheduled at 9 p.m., will be preceded by an Hawaiian-style luau buffet that will be served starting at 7 o'clock.

Tickets, priced at \$12.50 per person, are now on sale at the CPO Club office, and reservations must be made no later than Tuesday, Aug. 26.

### Enlisted Mess

"Millenium," a 5-piece rock-music combo from the Los Angeles area, once again will be entertaining the patrons of the Enlisted Mess this evening from 9 o'clock until 1:30 a.m.

Surf 'n' turf will be the main entree on the menu tonight, from 6 to 8:30 p.m. in the EM dining room.

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NAVAL WEAPONS CENTER  
CHINA LAKE  
CALIFORNIA

August 1, 1980

Vol. XXXV, No. 31

### Hot weather hits local area later than usual

Hot summer weather, which took longer than usual to arrive this year in the local desert area, is definitely here.

John Gibson, weather forecaster assigned to the Naval Oceanography Command Detachment at Armitage Airfield, reports that this summer's hot weather began on July 15, when the maximum temperature hit a high of 104 degrees.

Since mid-July, the maximum temperature has been hitting around 109 or 110 degrees daily. High mark was the 111 set last Friday, July 25. Cooling off at night also has been a problem. Highest minimum temperature of the season was 81 degrees recorded last Monday night — a day on which the mercury soared to a high of 109.

Cause of the local heat wave, Gibson reports, is a region of high barometric pressure that has been sitting over the Midwest and producing record heat there. This high recently expanded and slipped to the west — bringing hot weather to the local desert area.

While the westward shift did bring rain showers and some lowering of high temperatures in the Midwest, it will continue to be unusually warm in that part of the country for the remainder of the summer as the high responsible for this hot weather fluctuates from the Midwest to the east coast and then back to the west coast, Gibson explained.

During hot weather, humidity in the barren, unlandscaped area at Armitage Airfield has ranged between 15 and 25 percent. In the housing area and community of Ridgecrest, however, the humidity will always be higher because of lawns, trees and shrubs.

Because evaporative coolers are less efficient when there is humidity in the air, discomfort due to the heat and humidity is amplified.

### Commander's Award for excellence in mission support given to 5 employees



COMMENDED FOR WORK — Capt. W. B. Haff, NWC Commander, presents the pyramid paperweight symbolic of the Commander's Award for Excellence in Mission Support to (l. to r.) Dr. Clifton E. Stine, Richard D. Malone, Gary Smith, and Richard D. Fulmer. The award was given in recognition of their outstanding work with the Energy Program Office during Fiscal Year 1979 for which the Center received the Secretary of the Navy Energy Conservation Award.

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At Monday morning's Commander's meeting, five Naval Weapons Center employees were recognized for their support of the Center's mission by being presented the Commander's Award.

Richard D. Fulmer, Gary Smith, Dr. Clifton E. Stine and Richard D. Malone were honored for their contribution to the Center's energy conservation program; their contributions were vital in NWC being selected as the best large Naval activity in energy conservation for Fiscal Year 1979. Mrs. Peggy J. Flagg was honored for her service as Department of State Passport Agent designee for July 1977 through June 1980.

The award consists of a letter of commendation from the Commander, a pyramid-shaped paperweight inscribed

### High Hazard X-ray System

### Proves value in finding cause of rocket motor malfunctions

How does one determine the possible cause of a rocket motor malfunction when, after ignition, the rocket motor propellant is rapidly burned up and there is virtually nothing left to examine after it has been fired?

Available as one of the best, and the only X-ray systems in the free world for finding solutions to this problem is the NWC-developed and operated High Hazard Real Time X-ray System, a diagnostic tool used by rocket motor designers that is found in the Ballistics Test Branch of the Range

Department's Ordnance Test and Evaluation Division.

Jon Rogerson, an electronics technician who is the designer and operator of the system, is involved in work on improvements to this system, which is capable of dynamic testing of rocket motors up to 100 in. in length.

This is done by using equipment to generate X-rays and a high efficiency image system to produce real time X-ray television images of what is transpiring as a rocket motor is burning. The importance of this tool is that by having the capability to display X-ray images of internal rocket motor phenomena, the rocket motor designer can get information that is obtainable in no other way.

Because no hardware modification is required, such tests have no effect on the mechanical integrity of the item being tested.

The system is not intended to compete with static radiography, but only to produce dynamic data. However, through the use of digital video image processors, film quality can be approached in clarity of detail.

This special type of work has been underway since 1966 in the Skytop test area, but it has been modified and improved in many ways since that time. Initially 16mm film was used to record rocket motor test phenomena, but now there is the real time television system whose latest improvement is the addition of X-ray equipment that has been installed permanently at the test bay.

By the use of X-ray coupled with a real time TV system that records data on tape, information is acquired that, when analyzed, can pinpoint problems related to propellant burn rate or propellant grain performance during burn; integrity of the liner/insulator bond during firing, rocket nozzle performance, and other internal rocket motor characteristics.

The High Hazard Real Time X-ray  
(Continued on Page 3)



PASSPORT EXPERT — Mrs. Peggy J. Flagg, Senior Security Clerk in the Safety and Security Department, received the Commander's Award for Excellence in Mission Support for her work expediting passports for the Center's travelers.

With the name of each winner, information on the specific mission-support related achievement and the signature of Capt. W. B. Haff, NWC Commander, and the date of the award. Each recipient also receives a monetary stipend for this special type of outstanding performance recognition.

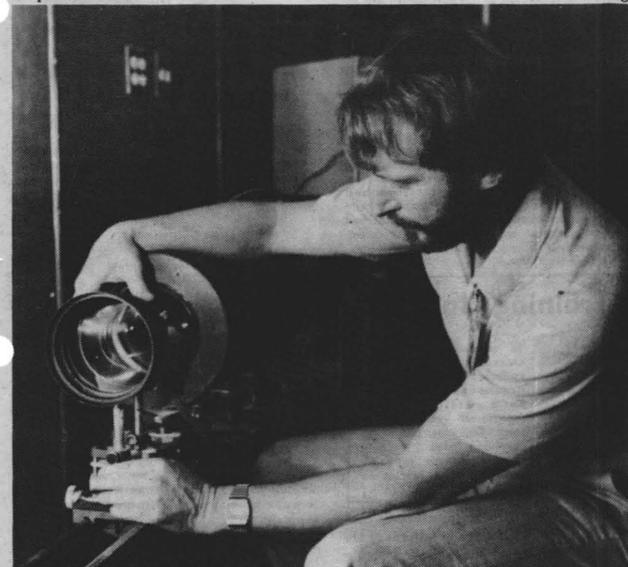
Fulmer was Director of the Energy Program Office during the period of time  
(Continued on Page 3)

### Freeze placed on hiring of full time permanent workers

A freeze on hiring full time permanent employees in all elements of the Naval Material Command was imposed last week to assure that civilian personnel ceilings can be attained by the end of this fiscal year.

Commitments made prior to the announcement of the freeze on July 23 may be honored, but, where possible, entry on duty dates should be deferred to Oct. 10, 1980.

The freeze was made necessary by a drop in the anticipated attrition rates (employees leaving government service or retiring); civilian employment on June 30 in NAVMAT was 1,638 above the ceiling set under Presidential rocket motor characteristics.  
The High Hazard Real Time X-ray  
(Continued on Page 3)



LENS ADJUSTED — Jon Rogerson adjusts the lens on an image intensifier that is used to bring light up to a high enough level where phenomena occurring during the rapid burning of a rocket motor propellant can be photographed. Using an image intensifier is one of the steps that can be taken to insure desired test results while operating the High Hazard Real Time X-ray System.



**WINNERS** — Taking the three top awards Navy-wide in their age bracket in the 1979 Department of Navy Energy Awareness Week poster contest were (l. to r.) Cathy Dibble, third place; Gabriela Garcia, first place; and San Greenum, second place. The young winners show reproductions of their winning posters.

## Three local youngsters win top awards in Navy poster contest

Naval Weapons Center entries swept first, second and third place nationally in the 1979 Department of Navy Energy Awareness Week 1979 poster contest in the age 7 to 11 category.

Six additional posters submitted by the NWC Energy Program Office received either honorable mention or special mention awards in the contest entered by Navy commands throughout the world.

All posters submitted were divided into three age categories: 3 to 6 years, 7 to 11 years, and 12 to 16 years. NWC submitted posters only in the first two age categories.

Winners were Gabriela Garcia, 10, first place; Sam Greenum, 11, second place; and Cathy Dibble, 9, third place. Those who received honorable mention were Niki Good, 6; Jennifer Janson, 6; Troy Taylor, 6; and Robert Scanlon, 11. Special mention awards were won by Lisa Kroll, 11, and Turi Loewen, 8.

In a ceremony held on Tuesday, winners were presented with certificates signed by Secretary of the Navy Edward Hidalgo and countersigned by Adm. Thomas B. Hayward, Chief of Naval Operations. The certificates were presented by Capt. W. B. Haff, NWC Commander, and Harold Hockett, mayor of the City of Ridgecrest.

Capt. John R. Ives, Public Works Officer, officiated at the ceremonies that were attended by the winners, their parents and friends, representatives of Center Command and the staff of the Energy Program Office.

Capt. Ives noted that NWC has been actively concerned with energy since 1973 when the first energy crisis relating to petroleum fuels occurred.

To pursue the goal of conservation, he said, everyone must be aware of the need to

conserve; success in this goal at NWC has resulted in a drop of 25 megawatts of peak electrical use down to 14 megawatts peak use, and it is the cooperation of everyone of all ages that has enabled these savings to be made.

Richard D. Fulmer, who headed the NWC Energy Program Office when the contest was held, expressed the feeling of the Navy that the poster contest is an important part of Energy Awareness Week because the future of the boys and girls participating would be affected greatly by how successfully today's conservation goals are met.

"My sons are quick to point out to me that I'm wasting energy if I go out and leave the light on in a room," Fulmer said, "and I'm sure that all the boys and girls who took part in the contest will be just as quick to remind their parents of ways to save energy."

During Navy Energy Conservation Awareness Week last October, Mrs. Barbara De Vries, from the Energy Program Office staff, spoke about energy conservation to children at each of the public schools in the Indian Wells Valley as well as at private and parochial schools. Children were invited to enter the Navy Energy Awareness Week poster contest; 598 posters were received from local children.

Winners were selected by the Energy Program Office staff for each grade level and each school. The winning posters were then forwarded for Navy-wide judging.

"The other posters are winners, too," said Fulmer. "They've been exhibited in local stores and in various buildings around the Center. The original drawings that the boys and girls have made are far more effective than any printed poster in reminding everyone that we need to save energy."

## Promotional opportunities

Applications (Standard Form 171) should be put in the drop box located at the Reception Desk of the Personnel Department, Bldg. 34. Unless otherwise specified in an ad, applications for positions listed in this column will be accepted from current appointable (i.e., career/career conditional and VRA) NWC employees only. All others desiring employment at NWC may contact the Employment Wage & Classification Division, Code 092, Ext. 2049. Ads will run for one week and will close at 4:30 p.m. on the Friday following their appearance in this column, unless a later date is specified in the ad. Advertising positions in the Promotional Opportunities column does not preclude the use of alternate recruiting sources in filling these positions. The filling of these positions through Merit Promotion is subject to the requirements of the DoD Program for the Stability of Civilian Employment. The minimum qualification requirements for all GS positions and positions subject to the Demonstration Project are those defined in OPM Handbook X-118; those for all wage system positions are those defined in OPM Handbook X-118C. Applicants will be evaluated on the basis of experience, training, education, and awards as indicated in a written record consisting of a SF-171, at least one supervisory appraisal if it can be obtained, and any tests, medical examinations, interviews, and supplemental qualifications requirements that may be necessary. For managerial/supervisory positions, consideration will be given to applicant's support of the Equal Employment Opportunity programs and objectives. Applicants must meet time in grade and qualifications requirements by the closing date of the ad. The Naval Weapons Center is an Equal Opportunity Employer; selections are made without discrimination for any nonmerit reason.

**Announcement No. 0306, Budget Analyst, GS-560-5/7, PD No. 7708037, Code 0822** — This position is located in RMA Branch A, Budget Division, Office of Finance and Management. The incumbent provides services, to one or more of NWC's operating departments, including guidance of financial staff. Incumbent is responsible for all phases of budget execution, formulation, control and monitoring of direct, overhead, and capital budgets. Job Relevant Criteria: Ability to gather and analyze raw financial data; ability to prepare clear and concise written communications; ability to make effective oral presentations; ability to deal tactfully and effectively with others. Promotion potential to GS-11.

**Announcement No. 0408, Supervisory Computer Systems Analyst, GS-334-12, PD No. 8008003E, Code 0842** — The incumbent of this position is head, Operations Support

## Reassignment opportunities

This column will be used to fill only engineering and scientific positions through reassignment and through promotion to positions with equal promotion potential. For this reason, the Reassignment Opportunity Announcements are separate from the Promotion Opportunities column in the Rocketeer. Applications will only be accepted from employees currently in scientific or engineering positions. Applications will be accepted until the date stated in the announcement. Employees whose work history has not been brought up to date are encouraged to file an SF-171 or 172. All applicants must meet minimum qualification requirements established by the Office of Personnel Management. Information concerning the recruitment and placement program and the evaluation methods used in these reassignment opportunities may be obtained from Personnel Management Advisors (Code 096 or 097). Applications should be filed with the person whose name is listed in the announcement. The Naval Weapons Center is an Equal Opportunity Employer.

**Electronics Engineer, GS-555-9/11/12, PD No. 7964012E, Code 4427** — This position is located in the Test Support Branch, Test Engineering Division, Parachute Systems Department. The incumbent designs, develops, tests and evaluates electronics systems used in the testing of parachutes and other deceleration systems. The incumbent must also arrange for in-house or off-center acquisition of the equipment, oversee its installation and evaluation in the test situation. To apply for this reassignment opportunity, contact Wally Fung, Code 642, phone ext. 2135.

**Announcement No. 3614, Engineering Technician, GS-802-11, PD No. 7936111N, Code 3403** — This position is located in the Production Engineering Office, Engineering Prototype Division, Engineering Department. The incumbent will be responsible for providing practical knowledge of current production technology utilized by industry to produce complex weapon systems and for incorporating this knowledge into weapon systems designs, minimizing the risk of going into production with a system that dictates inefficient processes, thereby maximizing producibility. The incumbent is responsible for the review of technical data packages to assure that the composite of characteristics and features of the design allows for economical fabrication, assembly, inspection and test. He/she will be responsible for the development and application of appropriate producibility standards and guidelines. The incumbent is responsible for the survey and evaluation of a contractor's plant in order to determine its ability to produce a weapon system as defined in a procurement data package. Job Relevant Criteria: Technical working knowledge of complex weapons systems design; knowledge of the fundamentals of product design, production planning, tool engineering, manufacturing processes, and quality control; knowledge of the economics of the total manufacturing process and be able to exercise proper judgment when reviewing potential modifications to an operational sequence; ability to evaluate manufacturing proposals submitted by contractors to determine their relative merit and impact on a total weapons system; ability to establish and maintain good working relationships with both technical and managerial personnel and exhibit tact when recommending changes. File applications with Gordon Reymore, Code 36403, phone ext. 3707.

Branch, Management Information Systems Division, a unit of the Office of Finance and Management. The incumbent will be responsible for the internal operation and management of the operations support branch and for providing automated data processing programs for management operations. Job Relevant Criteria: Ability or potential to supervise an organization; knowledge of management data handling techniques; ability to develop ADP programs and procedures; ability to communicate effectively orally and in writing.

**Announcement No. 2406, Lead Firefighter, GS-081-4, PD No. 7824035, Code 242** — This position is located in the Fire Division of the Safety and Security Department. Incumbent is crew chief of the major piece of motorized fire fighting apparatus and its crew. Duties include answering fire alarms; instructing crew in operation of fire equipment and all phases of fire fighting; and directing fighting of fires in absence of high authority. Job Relevant Criteria: Knowledge of fire prevention practices and ability to supervise and conduct inspections and identify fire hazards; ability to communicate with others effectively both orally and in writing in working out solutions to problems or questions relating to the work; potential to motivate, train, and work effectively with subordinates who have a variety of backgrounds and training; ability to plan work and carry out assignments effectively; demonstrated potential ability to plan initial attack, including rescue, and the efficient control and extinguishments of fires; knowledge of locations (streets, water distribution, alarm/detection systems, building contents/layouts, etc.). This announcement will be used to establish the promotion register for Supervisory Firefighter, GS-081-6, which will remain in effect until January 1981. Supplemental forms are required and must be picked up from recipient in the Personnel Office and returned with a completed SF-171 by Aug. 8, 1980.

**Announcement No. 26-009, Maintenance Foreman, WS-4781-16, JD No. 8024051E, Code 2424** — This position is at the first full supervisory level in the Maintenance Utilities Division, Electrical and HVAC Branch, HVAC Shop, Public Works Department. The incumbent plans sequence of operations and work steps of employees who repair, maintain, and install refrigeration and air conditioning equipment. Incumbent interprets blueprints and instructions as required. Works from oral instructions or written instructions. Plans distribution of workload among subordinates and assigns work to employees. Must be familiar with the theory, practice, techniques and work methods of trades supervised. Must have ability to read and interpret to others blueprints, diagrams, specifications, manuals and technical directives. Incumbent requisitions tools, materials and equipment needed. Directly supervises air conditioning equipment mechanics, air conditioning equipment mechanic helpers and boiler plant equipment mechanics. Job Relevant Criteria: Ability to supervise; technical practices; ability to interpret instructions, specifications, etc.; knowledge of materials; knowledge of pertinent tools and equipment; interest in and potential to manage people problems (EEO). File SF-171 and Supplemental Wage Grade Supervisory information sheet to be received not later than

(Continued on Page 7)



## DIVINE SERVICES

**PROTESTANT**  
Sunday Worship Service 1000  
Sunday School—All Ages 0830  
Sunday School Classes are held in Chapel Annexes 1, 2, 4. (Dorms 5, 6, 8) located opposite the former Center Restaurant.  
Communion Service First Sunday of the Month.

**ECUMENICAL**  
Wednesday Noon Bible Study 1130  
Thursday Men's Prayer Breakfast 0630

## ROMAN CATHOLIC

**MASS** 0830 1130  
Nursery, Chapel Annex 1 0815 1245  
Daily except Saturday, 1135. Blessed Sacrament Chapel

## CONFESSIONS

Daily 1115 to 1130  
Sunday 0800 to 0825

## RELIGIOUS EDUCATION CLASSES

Sunday Pre-school thru 11th grade 1000  
Above classes are held in the Chapel Annexes across from the former Center Restaurant.  
Sunday afternoon 12th grade 1630  
As announced "In Home" Discussion Groups and Youth Rallies

Contact Chaplain's Office for specifics.

## JEWISH SERVICES

**EAST WASH—ALL FAITH CHAPEL**  
Sabbath Services every Friday 1930  
**UNITARIANS**  
**CHAPEL ANNEX 95**  
Sunday Services—(Sept. May) 1930

## The Rocketeer

Official Weekly Publication  
Naval Weapons Center  
China Lake, California  
Captain W. B. Haff  
NWC Commander  
R. M. Hillier  
Technical Director  
S. G. Payne  
Public Affairs Officer  
Don R. Yockey  
Editor  
Mickey Strang  
Associate Editor  
Beverly Becksvort  
Editorial Assistant  
Ron Allen  
Staff Photographer



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## Training classes

To enroll in the following classes students should submit NWC Training Request and Authorization Form #2410 73, via department channels, to reach Code 094 before the deadline listed. If handicapped indicate need for first floor room location on training request.

**CSCI 325 Hybrid Computation and Sequential Optimization Methods (3); Prerequisite: CSCI 125 or 126 or appropriate programming background. Aug. 18-22, 7:30 to 11:30 a.m.; Sept. 6, 7, 20 and 21, 8 a.m. to 4 p.m.; Training Center. Instructor: Dr. Ralph C. Huntsinger, California State University, Chico.**



**HOT ACTION** — A temperature of 109 degrees made for hot action in Sunday's match between the China Lake Soccer Club and the Lancaster United Soccer team. The score, 7-1, made it a breeze, however, for the visitors. As this photo was shot, Bill Dive! (in foreground), a halfback for Lancaster United, boots the ball away as John Piri, a defender for China Lake, closes in.

## Lancaster United team runs roughshod over CL Soccer Club, posts easy 7-1 win

The Lancaster United Soccer team, possibly the strongest team in the High Desert Soccer League, ran roughshod over the China Lake Soccer Club during a non-league game played last Sunday afternoon at Davidove Field.

The weather was hot (the temperature reached a high of 109 degrees) and the visiting soccer players from Lancaster were equally fired up as they posted an easy 7-1 victory.

Four players scored goals thanks to the well-rounded offensive effort displayed by the Lancaster United team, while the China Lakers were held to a single tally by Lynn Lacey.

What makes the Lancaster United effort even more impressive, Karl Kauffman, player-coach of the China Lake team, said, is that four of the team's top players failed to make the trip here for the game.

A rematch between these two teams has been scheduled in Lancaster during the latter part of August. In the interim, Kauffman hopes the China Lakers will develop a better understanding of the tactics of the game, improve upon the teamwork that is necessary on both offense and defense, and show a gain in the stamina needed to play this fast-moving game.

In addition to Kauffman, local players who took part in Sunday's game against the Lancaster United Soccer Club were goalies Greg Cote and Tom Veatch, defensemen George Mills, John Piri, Ross Heimdahl, Gerry Steiner, Ken Pritchard, and Ar-

## Partner's best ball tournament planned by Men's Golf Club

Entries are now being accepted by the China Lake Men's Golf Club for a two-man partner's best ball tournament that will be held on the weekend of Aug. 16-17 at the China Lake Golf Course.

This competition is being planned as an annual event that will be modeled after similar Southern California Golf Association (SCGA) tournaments.

The winning team in the competition on Aug. 16-17 will represent the China Lake Golf Club (CLGC) in the SCGA tourney that is scheduled Sept. 25-26 at the Del Safari Country Club in Palm Desert, Calif.

The local event is open to CLGC members who are at least 21 years of age and have a valid SGCA handicap. There is an entry fee of \$10 per team, and Monday, Aug. 11, is the deadline to register for the tournament.

The winning team will receive an expense-assisted (entry fee and lodging paid) trip to the SCGA tournament at Palm Desert in September. There also will be gift certificates for the low gross team, the low gross player and the low net player.

## Varied recreation activities for youth planned

A wide range of activities including two out-of-town trips, three sport clinics, in-tube water polo competition, a bicycle repair class, two disco dances, and four movie matinees are scheduled for youngsters during August by the Recreational Services Department.

Elaine Mikkelsen, community services director, will supervise a trip to California City on Aug. 9 for youths between 8 and 17 years of age. Various games will be played there depending on the number and ages of those attending.

Two days earlier, the third fishing trip of the summer to Whitney Portals will be supervised by Bernadette Namauleg, assistant community services director. Fishing licenses are not required, but each participant must supply his or her own fishing gear, and take along a sack lunch.

There is a \$3 registration fee for either the visit to California City or to Whitney Portals. These outings will be cancelled if 23 youngsters have not signed up by at least two days prior to each trip.

A special services van will leave the gymnasium parking lot at 7:30 a.m. for

each trip and will return at about 4:30 p.m. A basketball clinic for 7th and 8th graders is slated between 9 and 11 a.m. from Aug. 4 through Aug. 8 at the Youth Center gym.

A \$5 registration fee is charged for the clinic during which Dan Linstead and Mark Hucek will teach dribbling, shooting, passing and defensive techniques, as well as team play.

**SOCCER CLINICS PLANNED**  
The Recreational Services Department also will sponsor two free soccer clinics on Aug. 16 and 23 at Davidove Field for 1st through 6th graders. The clinics will serve as a preview of the Youth Soccer League program, which begins this fall.

Karl Kauffman and John Piri will teach some skills and techniques as well as the general rules of the game.

The clinic for the 1st and 2nd graders will start at 8 a.m. followed by the 3rd and 4th graders at 9:30 a.m. and the 5th and 6th graders at 11 a.m.

**INNERTUBE WATER POLO**  
Another new activity for youths in August is in-tube water polo, which will be held at the indoor pool on Aug. 13, 20 and 27 for 3rd through 6th graders and Aug. 14, 21 and 28 for 7th through 12th graders.

The first 30 youngsters who show up will be divided into two 15-member teams to guarantee at least 30 minutes playing time per child.

Fifth and 6th grade youths will take to the pool at 7:45 a.m. followed by the 3rd and 4th graders at 8:45 a.m. On the other days the 7th and 8th graders will lead things off at 7:45 a.m. with the 9th through 12th graders competing at 8:45.

A 50-cent fee is required from all in-tube water polo players.

On Aug. 12, Linstead will instruct a bicycle repair class from 10 a.m. to 12:30 p.m. at the Community Center for youths between 8 and 14 years of age.

The instruction given at the repair class will focus on general maintenance, such as

how to change and fix a flat tire, how to fix a loose chain, and how to oil and lubricate a bicycle.

Youngsters are reminded to bring their own bike in good condition for a ride around the Center housing area that will follow this class. All youths must have a permission slip and pay a \$1 registration fee.

On Aug. 8 a disco dance will be held for youngsters between 12 and 17 years of age with a dance for 9 to 11-year-olds scheduled on Aug. 15.

**DANCES SET AT YOUTH CENTER**  
Both dances will be held at the Youth Center between 6:30 and 8:30 p.m. The cost for each dance will be 75 cents for an individual and \$1.25 per couple.

Recorded music will be played, and ping pong, pool, chess, checkers, monopoly and other games will be available for the 9 to 11 age group.

"For the Love of Benji," a comedy-drama starring Patsy Garrett and Benji, will be the first of four G-rated movie matinees slated on Wednesdays at the Center theater, beginning Aug. 6.

The box office will open at 1:30 p.m., and show time will be at 2 for the matinees. The admission price is 85 cents per person.

**OTHER MOVIES SCHEDULED**  
The other matinees scheduled during August are, in order, "The Cat From Outer Space," "The Lord of the Rings" and "The Muppet Movie."

The fee payment deadline for any activity except the dances, the matinees and the in-tube water polo, is the day before the event, although participants are urged to register early for all programs. Fees charged for the dances, the matinees and the in-tube water polo may be paid at the event itself. Other fees are payable at the Recreation Coordination Office, located next door to the Center gym.

Contact the Recreation Coordination Office at NWC ext. 2010 for further information regarding any program.

## Promotional Opportunities

(Continued from Page 2)

Aug. 15, 1980. Supplemental form may be picked up in the Personnel Bldg. No. 34, Rm. 210, from Linda Long.

**Announcement No. 31-006, Clerk (Typing), GS-303-3/4, PD No. 7931061, Code 31024** — This position is located in the Staff Office, Aircraft Weapons Integration Department.

Incumbent provides clerical support in the area of contract development and administration. Ensures, completeness and accuracy of requisition and procurement actions which includes limited responsibility for procurement packages up to \$10,000 and requisitions up to \$1,000; maintains records and files; and prepares routine correspondence. Job Relevant Criteria: Working knowledge of supply and procurement principles including ASPS and Navy procurement directives; knowledge of the requisition, procurement policies and procedures; knowledge of Navy and NWC budget and financial regulations; knowledge of Navy and NWC correspondence procedures.

**Announcement No. 32-002, Sheet and Plate Metal Worker, WG-3801-11, JD No. 443, Code 2323 (2 vacancies)**

— The position is located in the Process Support Branch, Process Systems Division, Ordnance Systems Department. In connection with explosive and propellant research and development work, incumbent will layout, fabricate, fit, weld, and assemble metal devices and structures made of steel, iron, brass, aluminum, stainless steel or high strength alloys. Job Relevant Criteria: Computing and drafting mathematics; layout and pattern development; ability to cut materials pertinent to the trade; ability to braze, solder, spot weld and gas weld; ability to use hand and power equipment (braking, forming, fastening, etc.); reading blue prints; and ability to do sheet and plate metal work without more than normal supervision.

**Announcement No. 35085, Electronics Engineer, DP-855-1, PAC 8035502E, Code 3522** — As head of the Advanced Tactical Radar Section of the Advanced Technology Branch, RF Development Division, Electronic Warfare Department, the incumbent will be responsible for the design, development, test and evaluation of advanced airborne targeting/strike avionics and a real-time synthetic aperture radar (SAR) simulation facility. Duties will include the development of advanced radar systems using SAR techniques for application to military aircraft, development of interface equipment for integration between this avionics and appropriate weaponry and development of ground support equipment appropriate for conducting real-time test and evaluation of aircraft/missile peculiar SAR systems. Job Relevant Criteria: Experience in the development of radar systems and digital image and signal processing systems; ability to meet and deal effectively with contractors and program sponsors; ability to communicate effectively orally and in writing.

**Announcement No. 3613, Tools & Parts Attendant, WG 4994-5/4, JD Nos. 473 and 573, Code 34422** — This position is located in the Resources Management Branch, Engineering Prototype Division, Engineering Department. The incumbent will be responsible for the operation of the division's tool crib, which involves receiving, checking, identifying, storing, issuing, and making minor repairs to tools and equipment. Job Relevant Criteria: Ability to do the theoretical, precise, and/or artistic work of the trade; ability to interpret instructions and specifications; ability to use tools and equipment of the trade; dexterity and safety; ability to do the work of the position without more

than normal supervision. Promotion potential to WC-4 Supplemental Qualification Statements are required for this position and may be picked up from the Information Desk, Personnel Bldg. No. 34, Rm. 100.

**Announcement No. 38-002, (Typing), GS-303-3/4, PD No. 773804N, Code 3802** — This position provides clerical support to the Research Department staff. The incumbent is responsible for maintaining department files and routing mail throughout the department. Serves as custody control point. Provides general clerical duties such as typing correspondence, preparing travel orders, keeps leave records and prepares time cards. Job Relevant Criteria: Skill in typing; ability to deal with a variety of personnel; ability to follow written and oral instructions.

**Announcement No. 38-003, Administrative Officer, GS-341-9/11, PD No. 8038038, Code 385** — This position is that of Administrative Officer, Chemistry Division, Research Department. The incumbent provides administrative and management support and services to the division. The incumbent will coordinate with branch heads and principal investigators in the preparation of technical proposals. Will advise the division head on financial difficulties, provide alternative solutions and take corrective action. The incumbent will provide support within areas of personnel, space/facilities requirements, procurement of technical/capital equipment and material, and training. The incumbent will also research, document, write and edit special management and administrative reports. Job Relevant Criteria: Knowledge of NWC financial system; knowledge of a variety of administrative functions such as personnel, contracts, supply, facilities, planning, space, equipment, security, safety; ability to exercise judgement; ability to work with a wide variety of personnel on and off-Center; ability to work independently.

**Announcement No. 49, Child Care Attendant, PS-0189-2, \$3.44 per hour plus benefits, (1 Permanent, full-time, 2 permanent, part-time), Recreational Services Department, Childrens Center, Code 22** — This is not a Civil Service position. Duties are to supervise and direct children; help with clean-up; provide care, guidance and developmental experiences, meeting appropriate educational and emotional needs of children; provide atmosphere to make child feel secure and protected; provide program to develop children's social skills, intellectual development; plan daily lesson plan; provide classroom environment that is cheerful and stimulating. Job Relevant Criteria: Must be a high school graduate or equivalent; and have one year experience in group child care or successful early childhood development, or one year training under qualified supervisor working with children of the age group served by the Children's Center; must be able to lift 40 lb.

Apply for all non-Civil Service positions with Betty Cheatum, Bldg. 21, Recreational Services Department, Ph. 3287 or 3288.



### Open Slow Pitch Division playoffs continue tonight

The six top teams in the Open Slow Pitch Division of the China Lake Intramural Softball League will resume play at 5:30 p.m. today in the slow-pitch playoffs, which began Wednesday at Schoeffel Field. The double elimination playoffs pit the top three teams from the National and American Slow Pitch Divisions against each other.

Representing the National Division is Mather's Dairy Service, the division champions with a regular season record of 15 wins and 1 loss, second place Burger King, which has a 11-5 mark, and the Knights of Columbus, a team with a record of 8 wins, 7 losses and a tie. Because it placed first in the division, Mather's Dairy Service received a first-round bye.

In the American Division, the SCOE Astros earned a first-round bye in the playoffs by virtue of their division-leading 12-3 record. At press time three other teams were still in contention for the two remaining American Division spots. They are Time Out / High Desert Home Center, with a record of 9-6, High Desert Saloon, which has a mark of 8 wins, 6 losses and a tie, and CSC, which has a record of 7 wins, 7 losses and a tie.

Three of the six teams will be eliminated after four games this evening. Action will resume at 5:30 p.m. Monday with the championship game following at 7 p.m. A second game between those two teams will be played at 8:30 if both teams have one loss.

Mather's Dairy Service ranks as the pre-playoff favorite based on its offensive power and outstanding regular season record.

Individual trophies will be awarded to members of the winning team, and the top three teams will receive sponsors' trophies.

The top four teams in the playoffs will participate with the first and second place Military Slow Pitch Division teams in another round of playoffs beginning on Tuesday to determine the best slow-pitch team in the China Lake Intramural Softball League.

### Women's aqua aerobics class to begin Aug. 11

Registration is now open for the fifth season of a women's aqua aerobics class, which will run from Monday, Aug. 11, through Thursday, Aug. 21.

The class, taught by Joan Renner, will meet from 8 to 10 a.m. daily Monday through Thursday at the indoor swimming pool in the Center gymnasium.

Class members must register at the Recreation Coordination Office prior to the first class session. There is a registration fee of \$24 per person.

Anyone seeking more information about the class may contact the Recreation Coordination Office by calling NWC ext. 2010.

### Youth Football League announces sign-up times

Boys 8 through 14 years of age will have another opportunity to sign up tonight and tomorrow if they are interested in participating in the Indian Wells Valley Youth Football League program this fall.

Registration will be held at the Ridgecrest Bowl tonight from 6 to 9 o'clock and tomorrow from 11 a.m. to 2 p.m.

Youngsters must be accompanied by a parent or guardian, since a parental consent form must be signed at the time of registration for youth football.

## NWC Os clinch Military Slow Pitch Div. crown

All four remaining division championships in the China Lake Intramural Softball League were decided last week with the only surprise coming in the Military Slow Pitch Division.

The NWC Os clinched the title in the Military Slow Pitch Division last week after defeating the Sports Etc. Tide Riders and the Dispensary team by the scores of 16-12 and 17-11, respectively.

The NWC Os were helped by Long Shot and the Techs 'n Rangers, who both knocked off the Marauders, the first place team for most of the season. The NWC Os now lead the Marauders by 1½ games with one regular season game to play.

A nine-run sixth inning was the difference in the NWC Os victory over the Tide Riders. Bob Leitzel went 2-for-2 with a home run and a single to lead the victors, followed by Joe Sweeney, who had a triple and two singles, and Tom Mariner and Gerry Pike, who had three hits apiece. Kevin Bauer had three hits for the Tide Riders.

Dave Nichols led the way against the Dispensary with two doubles and a single in four at bats. Five other batters for the NWC Os collected two hits each. Desi Torres was the leading hitter for the Dispensary with a home run, a double and a single in four at bats.

Meanwhile, Jim Carr homered and tripled to lead the Long Shot squad over the Marauders 6-2. Joe Schwartz and Rick Jones also had two hits.

The Techs 'n Rangers knocked off the Marauders by a score of 12-2, after a seven-run fourth inning. Dave Mitchell, Dale Patzkowsky and Gary Fecteau had two hits apiece for the Techs 'n Rangers.

In other Military Slow Pitch action last week, the Techs 'n Rangers dumped the Dispensary 19-10, and Long Shot outscored the Tide Riders 9-4.

### Mather's Dairy Service, led by Dale McLane wins '80 China Lake Men's Golf Club tourney

Mike McLane, an engineer-trainee involved in the Alternate Energy Program of the NWC Public Works Department, is the winner of the 1980 championship tournament held recently by the China Lake Men's Golf Club.

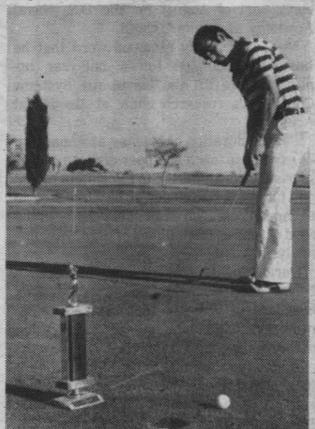
McLane led the pack in the championship flight of the tourney — a 72-hole event — by firing 18-hole rounds of 75 and 74 on the final weekend of competition. He finished two strokes ahead of Mark Moore, who placed second in the championship trophy competition. Third place honors went to George Ochtou.

The winners and runners-up in the other three flights of the tournament, listed in the order in which they finished, were:

President's flight — Bob Hooper, Jesus Quezada, and Gary Castor.

Vice-president's flight — Elmer Davis, J. D. Ward, and Hal Turner.

Director's flight — Jim Dillon, D. Hopkins, and Ev Yelland.



Mike McLane



A GAME OF INCHES — Burger King first baseman Don Gallaher just barely puts out Andy Price of Mather's Dairy Service as pitcher Dave Stein looks on.

Evins' two home runs, trounced second place Burger King 11-1 for the National Slow Pitch Division title.

Moe Hunsaker homered and singled, and Ritchie Clodt singled twice for Mather's Dairy Service, which upped its record to 15 wins and 1 loss.

The Knights of Columbus outscored ARCS 9-5, and Bird Olds forfeited to Swap Sheet in the other National Slow Pitch contests last week.

In the American Slow Pitch Division, the SCOE Astros were upset by the second place Time Out / High Desert Home Center

China Lake Intramural Softball League		
Standings as of July 24:		
Team	Won	Lost
<b>Military Slow Pitch Div.</b>		
NWC Os	13½	5½
Marauders	12	7
Long Shot	11	8
Sports Etc. Tide Riders	10	9
Techs 'n Rangers	8½	10½
Dispensary	2	17
<b>National Slow Pitch Div.</b>		
Mather's Dairy Service	15	1
Burger King	11	5
Knights of Columbus	8½	7½
Swap Sheet	5½	10½
Bird Olds	4	12
ARCS	3	13
<b>American Slow Pitch Div.</b>		
SCOE	12	3
Time Out / High Desert	9	6
Home Center	8½	6½
High Desert Saloon	7½	7½
CSC	6	8
Pizza Villa	4	11
NWC Navy Varsity	4	11
<b>Women's Slow Pitch Div.</b>		
Rowdies	14½	½
Bamboo Babes	12½	2½
Pizza Villa	11	4
Kelly's Girls	10	6
CSC	8	8
Castillo's Welding	5	10
Desert Imports	3½	12½
NWC Stingers	3	12
Independent Fillies	1½	13½

for which the Center received not only the Secretary of the Navy Energy Conservation Award but also the Chief of Naval Material Energy Conservation Incentive Award. He was commended for his personal efforts in helping the Center attain its leadership role in the photovoltaics and the electric and hybrid vehicle programs, and for the Center's successful and multi-faceted energy conservation program.

Fulmer now heads the Gun Systems Branch in the Ordnance Systems Department. He has been a Center employee since 1957, and worked with the Energy Program since its beginning in 1973 when the NWC Energy Independence Master Plan began to be formulated. Fulmer, now serving as an aerospace engineer, has a bachelor's degree in chemical engineering from the University of Southern California.

Smith, who now heads the Energy Program Office in the Public Works Department, was recognized for his work with alternate energy applications such as photovoltaics and the electric and hybrid vehicle programs, and the investigation of other new technology applicable in the Center's comprehensive energy program.

Dr. Stine was the Energy Conservation Officer in the Engineering Division of the Public Works Department prior to the establishment of the Energy Program Office in that department where he continued to head conservation efforts. He was honored for his aggressive and highly

successful conservation program. The Center's energy consumption dropped 16 percent during fiscal year 1979 below the baseline period 1975.

Malone, who heads the Electrical Branch in the Engineering Division of the Public Works Department, was honored for his personal efforts in engineering the many practical aspects of implementing various conservation projects and in developing specific energy conservation projects for submission to higher authority for funding.

Malone, who has been a Center employee since 1959, has a bachelor's degree in electrical engineering from the University of Washington in Seattle.

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functioning as the Center's passport agent during a three-year period earned the Commander's Award for Mrs. Flagg, senior security clerk in the Internal Security Branch of the Safety and Security Department.

Capt. Haff noted that Center technical expertise is vital to the Fleet, the Department of Defense and this nation's allies abroad, and that Mrs. Flagg's work often prevented delays that could have seriously impacted the Center's mission.

Dr. Stine is now a systems engineer in the Sidewinder Program Office. He has both a bachelor's and master's degree in mechanical engineering from the University of Washington in Seattle; a Master of Public Administration degree from California State College Bakersfield; and a Ph.D. degree in engineering from California University at Santa Ana, Calif. He has been employed at NWC since 1972.

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SPECIAL EFFORT RECOGNIZED — DM2 Neal A. Barry this week was the recipient of a Special Achievement Award presented by Capt. William B. Haff. Present for the ceremony during which the Navy enlisted man was honored for his work with Technical Information Department's Illustration and Design Branch was Barry's wife Bonnie.

## Five employees get Commander's Award . . .

(Continued from Page 1)

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## High Hazard X-ray System . . .

(Continued from Page 1)

existence since 1976. In the last four months, the latest modification was completed. This makes it possible for X-ray equipment to move along a track a few inches away from an ignited rocket motor and, traveling at up to 10 in. per sec. for a distance of more than 100 in., view in real time and record remotely what is happening inside the rocket motor as it is burning. Coverage of an area up to 14 in. square is possible.

MANY COMPROMISES POSSIBLE

There are many variables and compromises that can be made in order to insure the desired tests results, Rogerson said, and the method of recording test data combines a special TV system with a video tape recorder. Sophisticated video processors are used to obtain high contrast, high resolution, and low noise pictures.

When modifying this system, the latest improvements for which were designed by Rogerson and fabricated by employees in the machine shop and electrical shop in the Salt Wells area, sturdy but low-cost hardware no longer needed was adapted and made to work, since there was no desire to get into the position of being unable to conduct a potentially hazardous test because of the risk of damage to expensive equipment. These improvements permit the operator to view the rocket motor in real time and make position changes during a test.

STURDY EQUIPMENT

The High Hazard Real Time X-ray System is used outdoors and requires no heating or cooling. The equipment is designed to withstand (with a minimum amount of damage) strong shocks as well as high temperatures that would occur in the event of a rocket motor failure during a test.

What has evolved over the years is a rocket motor diagnostic tool that, due to its uniqueness, benefits not only NWC but other activities within the Department of Defense as well.

Future plans for its improvement include employing a linear accelerator to generate high energy X-rays, and a re-designed image system to allow data acquisition on larger rocket motors.

UNIQUE TEST FACILITY — The High Hazard Real Time X-ray Facility, located in the Skytop area, has the unique capability of being able to provide data on a variety of phenomena during the test firing of a rocket motor. Such tests provide information that is helpful in determining the cause of malfunctions or failures. As this photo was taken, a rocket motor was strapped down in the test bay prior to a test.

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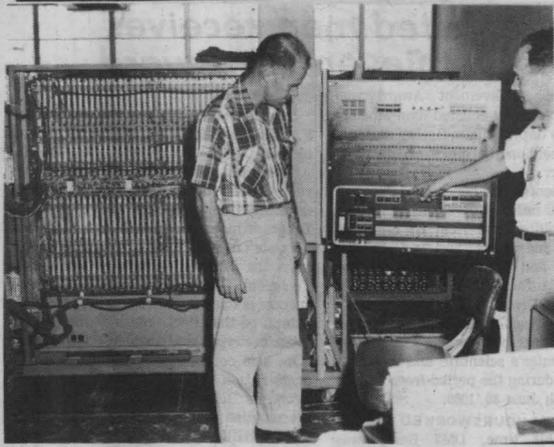
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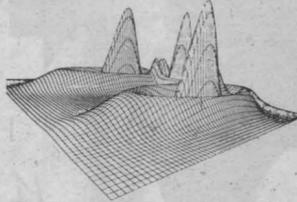
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**BIG COMPUTER** — The first big computer at China Lake was this IBM 701, installed in 1953. Harley Tilleff looks intrigued by what IBM engineer Fred Roberts is pointing out on the control panel.



**ARTISTIC CAPABILITIES** — Computer graphics began at NWC in 1959 with very simple plots but current systems of computer hardware and software permit 3-dimensional plotting, polar plots, drawing of maps, viewgraphs, reconstruction of digital data received from satellites into pictures, and production of slides.



**COMMUNICATOR** — Mike Plummer checks the modulator-demodulator used to digitize data in an analogue form to permit its transmission from one remote terminal to another or to the central site computer. Computer communication exists not only between computers and terminals on Center, but also between the Center's central computer and the Navy Laboratories computer network.

## Computer Sciences Div. directs electronic workhorse serving many needs at NWC

The Computer Sciences Division of the Aircraft Weapons Integration Department has prime responsibility for the Naval Weapons Center's giant UNIVAC 1110 computer, but this electronic workhorse serves customers throughout all Center operations.

Just as domesticated animals pulling plows and handling other chores extended man's productive capacity, so has the computer's performing of chores extended and freed man's mind for more productive labors.

When the Naval Ordnance Test Station was established at China Lake in 1943, a desk calculator enabled scientists and engineers to perform their calculations for research and development work much more rapidly and efficiently than with pencil and paper or a slide rule. The first big high-speed computer available to the NOTS team, the IBM 701, was cheered on its arrival in 1953 as a major breakthrough that would permit enormously expanded operations.

### UPGRADING NECESSARY

This history of computer operations at China Lake continued when NOTS became the Naval Weapons Center in 1967 and when, seven computers later, the UNIVAC 1108 served as the Center's main electronic brain.

Computer capacity and capability expanded also through peripheral equipment such as extra "memories," remote terminals, and the ability to draw pictures both on paper and cathode ray tubes.

Each added capability also meant that untold hours of drudgery were saved and the Center's work force, although shrinking in numbers, was able to perform more work more accurately than ever before.

### OTHERS CAN USE MACHINES

New computer languages such as FORTRAN and COBOL and new computer systems such as System 2000 have permitted non-computer specialists to program their own work rather than having to call on computer programmers for help. Classes are taught regularly by Computer Sciences Division personnel to enable those who need to use the computer to learn how to do their own work. Self-teaching devices such as films are also on hand for those who can't spend extra class time.

By use of remote terminals, managers, planners and analysts are able to get answers to their questions about Center operations quickly in their own offices. Scientists and engineers can perform their own calculations without delay, or can request that the operators on duty around the clock five days a week run large

programs for them. Time sharing permits a number of users to "get on the machine" simultaneously.

The net result is that once more the computer's capacity has been strained to the breaking point, and the Computer Sciences Division is again shopping for a newer, faster, larger model that hopefully will be in service by mid 1981.

### NWC Computers

- 1953 . . . . . IBM 701
- 1955 . . . . . IBM 704
- 1959 . . . . . IBM 709
- 1961 . . . . . IBM 7090
- 1964 . . . . . IBM 7094
- 1966 . . . . . UNIVAC 1005
- 1967 . . . . . UNIVAC 1108
- 1974 . . . . . UNIVAC 1110
- 1981 . . . . . ????



**LIBRARIAN** — Gwen Williamson manages a collection of documentation on UNIVAC software systems, a reference library including more than 100 computer-oriented periodicals to which the Center subscribes, and the textbooks used for courses taught by the Computer Sciences Division.



**TOO SMALL** — As Bob Bracken, head of the Computer Services Branch of the Aircraft Weapons Integration Department's Computer Sciences Division, watches, the UNIVAC 1110 spins on. This mammoth computer is now proving too small for all the tasks required of it despite its round-the-clock operation on working days. Bracken began his computer work in 1954 on the IBM 701, the Center's first big computer, and has worked with each of the increasingly larger ones aboard since. With the 701 everyone

wrote his own programs in assembly language, says Bracken, and even physically operated the computer to run his own job. The trend has come full circle — again, most scientists and engineers and other "number crunchers" are writing their own programs (albeit in a number of computer languages such as FORTRAN), and are operating their own remote terminals to get the data they need. Remote terminals also permit work after hours or on weekends.

## AOC Carrell earns medal for superior performance on job

Chief Aviation Ordnanceman Tom H. Carrell is the recent recipient of a Navy Achievement Medal that was presented to him by Capt. William B. Haff, NWC Commander, on behalf of Admiral T. B. Hayward, Chief of Naval Operations.

The presentation to AOC Carrell took place during a morning quarters ceremony held at Armitage Airfield for military personnel of the NWC Aircraft Department.

AOC Carrell was cited for his superior performance of duties as the Weapons Branch chief in the Aircraft Department's Aircraft Support Division during the period from January 1979 through March 1980.

The honoree, a veteran of 19 years of service in the Navy, has been at China Lake for the past 1½ years. He was transferred here from duty as ordnance chief with Attack Squadron 146 homeported at the Naval Air Station, Lemoore, Calif.

This is AOC Carrell's second tour of duty at the Naval Weapons Center. Previously he



**PONDERING** — Ens. Ken Dorrell carefully considers his answer to a question about the solar heating and cooling system at the NRCM branch medical and dental clinic (seen behind the group) during a 2-day tour of NWC energy projects by a group of summer employees from the Pacific Missile Test Center, Point Mugu. — Photo by PH2 Tony Garcia

## Pilot's condition still serious after plane crash in High Sierra

Jim Rudeen, deputy technical manager of the HARM / Standard ARM Technical Management Office in the NWC Electronic Warfare Department, remains in serious but stable condition this week in the intensive care unit of the Ridgecrest Community Hospital as the result of an airplane accident that occurred on July 23.

Rudeen, the pilot of the light plane (a Cessna 182), and two passengers, crashed west of the town of Olanca, in the Templeton Meadows area of the High Sierras.

### PASSENGERS TRANSFERRED

While Rudeen, the most seriously injured of the trio, remains hospitalized here, the passengers, John Tracy, 34, of Los Angeles, and Bill Armstrong, 48, of Woodland Hills, Calif., who were listed in stable to good condition, have been transferred from the hospital in Ridgecrest.

Rudeen, who is not allowed to have visitors at the hospital, is expected to remain in the intensive care unit for an

extended period of time. His injuries include two broken legs, a shattered right knee, several broken ribs, and aches and pains over a good part of his body.

After takeoff from the Inyokern airport on the ill-fated flight, which reportedly was undertaken for the purpose of giving the two passengers the opportunity to look over a possible site for filming a movie, Rudeen's plane went down in a forested area at about 8 a.m. on July 23.

Cause of the accident, attributed by Rudeen to a loss of power is under investigation.

The injured men were able to crawl only a few feet from the completely demolished aircraft to wait for help that came after the damaged plane's emergency locator transmitter signal was picked up by another pilot in Lone Pine.

### HELP REQUESTED

A request for help was made to the national rescue coordination center at Scott Air Force Base in Illinois by Gerald Schieffer, head of the Electronic Warfare Department, after Rudeen's wife, Ruth, informed him that her husband had not returned from the early morning flight into the Sierras.

Two Navy search and rescue helicopters from Armitage Airfield were used on this mission to ferry the three injured men from the crash site to the Ridgecrest Community Hospital.

## Anderson moves to HARM office assoc. technical mgr. slot

Matt Anderson, who returned recently to the Naval Weapons Center following a year's participation in the Sloan Fellowship Program at the Massachusetts Institute of Technology, has been assigned to the post of associate technical manager of the Electronic Warfare Department's HARM Technical Management Office.

HARM, an advanced, high velocity anti-radiation missile designed to suppress or destroy enemy surface radar systems, is now in pilot production with Texas Instruments as the prime contractor.

A U.S. House and Senate Appropriation Sub-committee has appropriated funding that will be available at the start of Fiscal Year 1981 in October for the development of a second source contractor.

Anderson, a former division head in the Fuze and Sensors Department, will be directing the planning that is being done in preparation for the awarding of a Naval Air Systems Command contract for a HARM second source prime contractor. Contract award is expected some time around the middle of FY 81.

Subsequently, Anderson also will be responsible for the coordination, execution and production efforts of the HARM second source contractor.

Past Navy and Department of Defense experience indicates that the development of a second source results in reduced production costs as well as improvement in the quality and reliability of the missile due to the competition between two prime contractors.



**MEDAL AWARDED** — Capt. William B. Haff, NWC Commander, presents the Navy Achievement Medal to AOC Tom H. Carrell.

put in a two-year hitch here from 1973 to '75.

In the citation that accompanied the Navy Achievement Medal, AOC Carrell was commended for initiating "many innovative and needed programs which ensured the division's ability to accomplish and maintain its primary mission of weapons development support."

Singleed out for special mention were the development of a Personnel Qualification Standards program, a program for tool control, and an extensive training and certification program.

"Chief Petty Officer Carrell's close association with project engineers, his high regard for safety, and his ability to expertly balance operational flexibility in dealing with new programs contributed significantly to the development of a wide variety of modified Fleet ordnance programs," it was noted in the Navy Achievement Medal citation.

### Sorry, we goofed

A problem with incorrect photo identification cropped up in the July 25 issue of THE ROCKETEER.

It was Cindy Sargeant, a laborer in the Field Support and Utilities Branch of the Public Works Department's Maintenance-Utilities Division, who was shown trying on a pair of safety shoes — not Miller Flournoy.

The ROCKETEER regrets the error.

## Visitors briefed on energy conservation efforts at Center

A group of 13 summer employees from the Pacific Missile Test Center (PMTC) at Point Mugu were here recently for an overview and briefings on Naval Weapons Center energy conservation and alternate energy projects.

They were accompanied by Jay S. Rosenthal, Coordinator for the Energy Office at PMTC, and Dallas Dellamy, staff photographer for the PMTC Missile, who recorded their visit on film.

Thad Perry, Technical Director of PMTC, suggested that such a visit would be in order for the college juniors and seniors who are employed in energy-related activities this summer at PMTC, because this would permit them to see a broader spectrum of the Navy's involvement in the energy field.

Energy activities at PMTC are mainly in the test and evaluation areas; NWC, as a research and development activity, is involved in alternate energy work as well as conservation efforts.

Programs about which they were briefed included the Geothermal Project (including a tour of the Coso Geothermal area), the Navy Photovoltaic Program, the Navy Electric Vehicle Program, and various Center conservation programs. The visitors also toured the solar heating and cooling system at the NMRC branch medical and dental clinic, and were shown through the low energy structure built at Salt Wells.

Student participants, all of whom are engineers in training, were Paula S. Andrews, Valerie D. Davidson, Rachel L. Lather, Michael Rocha, A. Ellen Tarwater, Edward R. Vinieratos, John Winslow, Tod P. Neilan, John J. Ahern, Peter H. Fischer, Karen J. Penfold, Joan A. Bay, and Larry Silva.

## Star gazers to see film slides about visit to Kitt Peak

Don Kusterer, past president of the China Lake Astronomical Society, will be the featured speaker at the group's August meeting, which will be held on Monday at 7:30 p.m. at the Society's hut, 401-A McIntire St., China Lake.

Kusterer will show film slides of the recent visit by eight society members to Kitt Peak and the multiple mirror telescope at Mt. Hopkins, while at the Western Amateur Astronomers' convention in Tucson, Ariz., during July.

If time permits, a second feature, showing some recent successes and failures in astrophotography, will be shown by Ric Lasher.

## Maddox gets appointment to research chair at Annapolis

Arthur Maddox, an aerospace engineer on the staff of the Advanced Technology Division in the NWC Ordnance Systems Department, will leave here during the early part of August for the U.S. Naval Academy at Annapolis, Md.

Maddox recently received word that he has been selected for a one-year appointment to fill the Naval Air Systems Command's research chair at the Naval Academy.

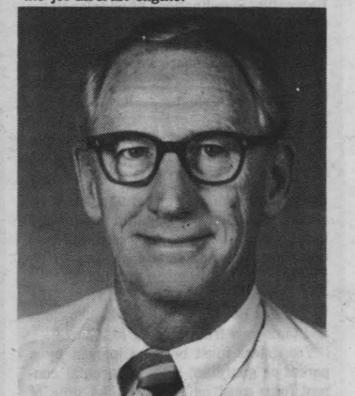
For the duration of his stay at Annapolis, he expects to teach an upper division course in basic aircraft design to midshipmen, and will have the remainder of his time free to engage in research work of his choice in the field of modern techniques of aerodynamics analysis.

During the 12 years that he has been a Naval Weapons Center employee, Maddox has been involved in technology development pertaining to the release or separation of rockets, missiles or bombs from aircraft.

Maddox has a Ph.D. with majors in both mechanical and aeronautical engineering, and in 1960, he attended the North Atlantic Treaty Organization's Von Karman Institute of Fluid Dynamics, which is located

in Belgium near the city of Brussels.

Maddox reports that one of the recent holders of NAVAIR's research chair at the U.S. Naval Academy was Sir Frank Whittle, who is generally regarded as the inventor of the jet aircraft engine.



Arthur Maddox