

Film slide show on 'Rafting Through Grand Canyon' set

"Rafting Through the Grand Canyon" will be the title of a slide show and discussion by Dwight Morgan during a Maturango Museum-sponsored program that will begin at 7:30 p.m. Tuesday at the Richmond School auditorium.

Morgan, a health, algebra, and social studies teacher at Burroughs High School, has spent the past three summers as a boatman for the American River Touring Association (ARTA). In this capacity, he has run most of the rivers on the West Coast, either as boatman for a tour or as a trainee. Among these rivers have been the Stanislas, American, and Tuolumne in California; the middle and main forks of the Salmon in Idaho; and the Rogue River in Oregon.

"I've always been interested in the outdoors," said Morgan, who grew up in the Indian Wells Valley. "River-running is a natural extension of backpacking—it's given me the chance to see a lot of country not accessible by trail."

In addition to discussing the excitement and adventure of river running in the Grand Canyon, Morgan will comment on ARTA's problem of maximizing visitor experiences while still maintaining low environmental impact. As a boatman for nine trips through the canyon already, with four scheduled for this summer, Morgan is intimately acquainted with the project.

This Maturango Museum lecture will be free of charge and will feature slides taken by Bob and Kristin Berry, local residents who made the Grand Canyon raft trip last summer as Morgan's guests.

Concert by Fresno State jazz ensemble scheduled

A concert by the award-winning jazz ensemble from Fresno State University will be presented next Friday, April 1, starting at 7:30 p.m. at the Cerro Coso Community College lecture hall.

Dr. Larry Sutherland, a jazz-trombonist, will direct a program of jazz and swing musical selections. The band, whose members include Bill Lutjens, a recent graduate of Burroughs High School, is stopping over here enroute to its participation in the Las Vegas Jazz Festival.

Tickets to next Friday night's program are priced at \$1 each and can be purchased in advance at the Station Pharmacy or in Ridgecrest at Loewen's or the Music Man. Proceeds will benefit the Burroughs High School music department.



IN REHEARSAL—Practicing for their performances tonight as part of the Cerro Coso Community College faculty recital are (l.-r.) Paul J. Riley, dean of student personnel services; Lauren Green, director of the Cerro Coso / Desert Community Orchestra; and Dr. Richard S. Meyers, college president. The event, which is free and open to the public, will begin at 7:30 at the college lecture center.

Musical recital by faculty members at Cerro Coso College set tonight

By Marjo Miles

Music from Beethoven to blue grass will be featured during a faculty recital at the Cerro Coso Community College lecture hall tonight at 7:30.

There will be no admission charge to the event and the public is invited to attend. However, donations will be solicited to establish a music scholarship at the college.

The program has been arranged by Winnie Nelson, music instructor and acting chairperson of the Cerro Coso music department.

College administrators will join faculty members for the performance. Dr. Richard S. Meyers, president, will be the evening's clarinetist, and Paul J. Riley, dean of student personnel services, will perform at the piano along with cellist Lauren Green, director of the Cerro Coso / Desert Community Orchestra in an excerpted presentation of Beethoven's piano trio in B flat major, Opus 11 for piano, cello and clarinet.

A touch of country music will be supplied by Kim Breedlove, a fine arts graduate from Long Beach State University and instructor of drawing, painting and banjo at Cerro Coso. He will perform a medley of compositions, including "Sailor's Hornpipe," "Grandfather's Clock" and "Under the Double Eagle."

SHOWBOAT

MOVIE RATINGS

The objective of the ratings is to inform parents about the suitability of movie content for viewing by their children.

(G) - ALL AGES ADMITTED

General Audiences

(PG) - ALL AGES ADMITTED

Parental Guidance Suggested

(R) - RESTRICTED

Under 17 requires accompanying

Parent or Adult Guardian

CS - Cinemascope

STD - Standard Movie Screen

Regular starting time—7:30 p.m.

Program subject to change without notice—please check marquee.

FRI. 25 MARCH

"ONE FLEW OVER THE CUCKOO'S NEST" (134 Min.)

Jack Nicholson, Louise Fletcher (Drama) Nicholson is a free spirited convict who feigns insanity so he can spend most of his six month prison term under observation at the State asylum instead of straining his back at a work farm. Hitting the ward like an earthquake, it isn't long before Nicholson becomes the unofficial spokesman for his fellow patients, doing everything in his power to shake them out of their apathy while trying to convince them not to swallow everything slung down their throats, gleefully disrupting the ordered apathy of the asylum. (R)

SAT. 26 MARCH

"THE HINDENBURG" (126 Min.)

George C. Scott, Anne Bancroft (Adventure Drama) In 1937, clairvoyant Ruth Kobert tells the FBI that the German zeppelin Hindenburg will be destroyed over American territory. Scott is assigned as security officer on the Frankfurt to Lakehurst, N.J., flight. Being under much strain and fearing the prediction may be true, Scott must contend with passengers and crew of the zeppelin, as well as a gestapo agent. (PG)

MON. 28 MARCH

"MARATHON MAN" (125 Min.)

Dustin Hoffman, Laurence Olivier (Action Drama) In New York, Dustin Hoffman, a student at Columbia University, becomes innocently embroiled in a murderous intrigue with an extremely sadistic ex-Nazi (Laurence Olivier). This film centers around the work of "The Division," a government agency which handles what the FBI can't touch and the CIA doesn't want to deal with. They use Olivier to hunt and expose other Nazis. (R)

WED. 30 MARCH

"SPIRAL STAIRCASE" (89 Min.)

Jacqueline Bisset, Christopher Plummer (Drama) Helen Mallory (Bisset), an attractive young woman who has lost her power of speech as the result of a traumatic fire that claimed the lives of her child and husband, is told by her friend and doctor that he has found a clinic in Boston which could restore her voice. The following morning they are to leave for Boston, but Bisset must spend one more night in the home of her invalid grandmother. In the past year, several deaths have occurred in this vicinity, each of the victims having had some serious handicap. Thus, Bisset fears for her life. This spine-tingling tale takes Bisset through a series of hair-raising incidents that will keep members of the audience on the edge of their seats.

FRI. 1 APRIL

"BATTLE OF THE GODFATHERS" (86 Min.)

Henry Silva, Herbert Fleischman (Action Drama) American gangster leader Henry Silva gathers together his mob, his mother and his daughter, and travels to Germany in order to take over an organized crime operation. Silva encounters a rival German leader (Herbert Fleischman) and this meeting later poses a problem as Silva's daughter and Fleischman's son fall in love. This greatly complicates matters for the two war lords. (R)

Play delayed 'til summer

The China Lake Players' production of "Come Blow Your Horn" has been postponed until this summer, according to the play's director, I. Rudyard Stone.

Stone explained that his job commitments have interfered with plans to put on the show in the immediate future. Tryout dates will be announced later.

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Naval Weapons Center
China Lake
California

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Only housing for military to be retained

The Chief of Naval Operations, with the concurrence of the Office of the Secretary of Defense, has approved the concept of retaining only those family housing units at the Naval Weapons Center needed to meet military personnel requirements.

This action is consistent with Department of Defense policy that communities adjacent to military installations in the contiguous U.S. provide, to the maximum extent possible, housing needs of DoD employees.

The Naval Weapons Center is now in the process of submitting a detailed plan to implement this concept. Subject to approval of higher authority, the plan will provide that over the next several years, occupancy of family housing units by civilian employees of the Department of Navy will be phased out and only military personnel and their dependents will be quartered on-base after that time. The plan also envisions retaining less than 1,000 of the Center's existing housing assets with the remainder being excessed and, in some cases, demolished due to the material condition of those units.

The detailed plan now being prepared is entirely consistent with the general plans for Center housing announced by Rear Admiral R. G. Freeman III, NWC Commander, on Jan. 19 of last year. Present occupancy of Center housing is estimated at about 1,600 units.

Unarmed Tomahawk cruise missile is launched over NWC

An unarmed U.S. Navy Tomahawk Cruise missile last Saturday flew successfully to the Dugway Proving Ground in Utah after being launched in mid-air over the Naval Weapons Center range area.

For this, one of several overland flights planned to test the Tomahawk's ability to navigate to a predetermined area, the missile was captive carried here from the Pacific Missile Test Center (PMTC) at Pt. Mugu under the wing of an A-6 Intruder aircraft piloted by Cdr. T. D. Richards, Tomahawk project officer at PMTC.

In the launch and escort aircraft with Cdr. Richards was Ed Emerson, contractor representative for General Dynamics.

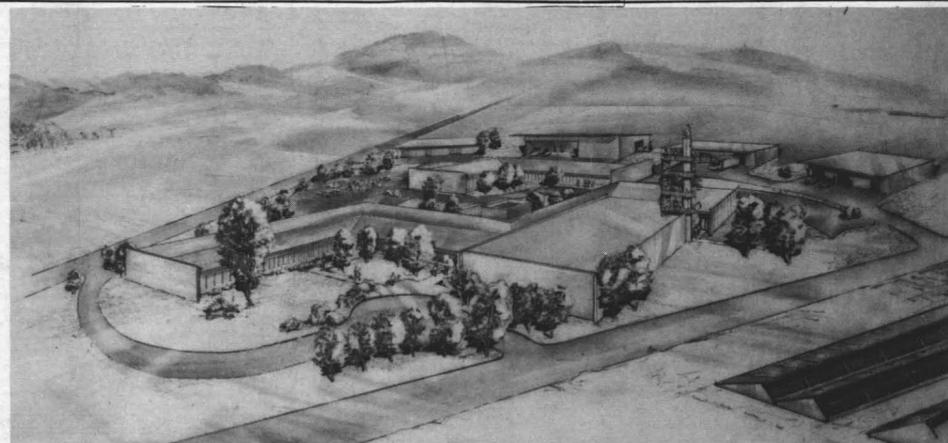
Following a flight 1 hr., 17 min. in duration, the Tomahawk circled the test range at Dugway, deployed its parachute and landed safely. The missile was navigated by its Terrain Contour Matching (TERCOM) guidance system, which compares measured terrain heights stored in an on-board computer and corrects the missile's course and altitude based upon the navigation fix.

Tomahawk's 20th Flight

Last Saturday's flight was the 20th for the Tomahawk, which has been test flown for more than 16 hours. It has been launched from aircraft, underwater torpedo tubes and shore-based platforms.

In mid-February, a Tomahawk cruise missile was ferried from Pt. Mugu to a launch point over the White Sands, N.M., Missile Range. On this test flight, the missile was guided by a prototype version of the Navy-developed Scene Matching Correlation (SMAC) guidance system working in conjunction with the TERCOM guidance system.

The SMAC system matches visual im- (Continued on Page 3)



RANGE CONTROL CENTER PLANNED—Included on the list of military construction projects to be started in Fiscal Year 1979 is a Range Control Center that is to be located in the vicinity of the air field. The drawing above is an architect's concept of this new facility that will consolidate all of the Range Department's major test and evaluation functions for operation and control of Code 62

ranges. This complex also will include Instrumentation Development and Range Operations Support Facilities. Principal functions of the Range Control Center will be the surveillance of restricted airspace, monitoring and control of test aircraft (including drone targets) on all ranges, and airspace, aircraft and range use scheduling.

NWC embarks on ambitious plan to upgrade, modernize test and evaluation facilities

(Editor's Note: This is the first in a series of articles devoted to range and test facility modernization. Specific articles on technical subjects will be published in later issues of The Rocketeer.)

The Naval Weapons Center has embarked on an ambitious plan, called Project 21, to modernize the air / ground ranges, expand and support Echo range, and develop and improve the propulsion, warhead, and environmental test facilities. This long range plan is focused on preparing NWC to perform test and evaluation of weapons during the next 25 years, into the 21st Century.

The major goal in upgrading and modernizing NWC's Test and Evaluation (T&E) facilities is to improve the productivity and operational effectiveness with which tests can be performed. This detailed look into the test and evaluation crystal ball extends up to the year 2000.

For 30 years the Center's T&E facilities have been utilized to develop, test, and evaluate air-launched and sea-launched weapons systems for a variety of customers. The principal sponsor of work is the Naval Air Systems Command, however, other Chief of Naval Material Systems Commands and laboratories also utilize NWC facilities. The Air Force and Army are increasing their utility of NWC facilities to test aircraft and missiles, and private industry and other government agencies have also utilized the Center's ranges to evaluate research and development systems.

The history of the facilities has, however, been influenced by weapons programs. Many of the current test facilities were developed in the 1950s to assist in developing specific weapons. In addition, several of the ranges were instrumented for slower speed aircraft and unguided weapons evaluation.

The major air ranges are more than 20 years old. They were conceived and built in the late 1950s and, in conjunction with the propulsion, warhead, and environmental test facilities, have been utilized for more than 20 years without any significant improvement or modernization. Newer facilities have been built by projects, but are limited in their capabilities to special functions.

Equipment Out of Date

Current methods of accomplishing work depend on the use of manually operated systems and dispersed equipment, and on the reliability and availability of equipment that is beyond its useful life. Trends in overhead and direct costs for NWC facilities show a rising requirement to the year 2000 and beyond. It is mandatory to reduce such costs by centralizing, automating and modernizing the NWC ranges to improve efficiency and reduce operational costs.

By conducting an active program of modernization, it is the view of Jerry L. Reed, acting head of the Test and Evaluation Directorate's Long Range Planning Office, that the capacity of the air and ground ranges can be increased from 3,000 test events a year in Fiscal Year 1977 to 4,500 events a year by 1985, and 6,000 events by the year 2000.

Three Time Frames Evaluated

Looking into the crystal ball and trying to predict the future has meant using every mathematical, scientific, logical and historical source available in an effort to determine the unknowns from the knowns. The approach to Project 21 was based on an evaluation of three time frames.

They were near term (Fiscal Year 1977 to 1981), mid-term (Fiscal Year 1980 to 1990), and long range (Fiscal Year 1990 to 2000). Near term requirements were based on project plans and sponsor interviews. Mid-range data were obtained from technology trends and plans such as the Naval Aviation Plan, and long range data were obtained from the Chief of Naval Operations' plan 2000 and similar documents. Dick Murphy, Code 39011, headed the requirements studies using personnel from several major departments.

Many trends were identified through this (Continued on Page 4)



Photo by M. Stan Sanders

SET FOR OPENING NIGHT—Galen White (seated at right), who plays Uncle Smetique in the Community Light Opera and Theater Association's production of "Dark of the Moon," tells the story of what was missing when the coffin of Agnes Riddle was opened. The interested townspeople are (standing, l.-r.) Karen Altieri, Brian Dettling, Greg O'Guin, Russ Higgins, Mike Ripley (and, seated, l.-r.) Becky Malby, Scott Flood and Curtis Barker. The play, which is based on the legend of Barbara Allen, will open tonight at the Burroughs High School lecture center at 8:15. Remaining performances are scheduled for the same time tomorrow night and on April 1 and 2. Tickets, priced at \$4 for adults and \$2 for students through the age of 21, senior citizens and enlisted military personnel, are on sale at the Gift Mart, Importium and Medical Arts Pharmacy in Ridgecrest. They will also be available at the box office on the evening of each performance.



INDIAN STUDENTS ATTRACT CROWD — An audience estimated at 900 persons attended last Saturday night's performance of the "Lamanite Generation" by American Indian students from Brigham Young University in Provo, Utah, who appeared on stage at the Center theater. This program of contemporary music and dance blended with traditional Indian, Polynesian, Latin and Mexican numbers included (in top photo) a sign language rendition of "Go, My Son," a song that delivers a message for Indian youth—instructing them to get an education and "make your people proud of you." In the photo at lower left, an authentic eagle dance originated by the father of the dancer is being performed, while (at lower right) a soloist was featured in the selection "Mountains Cry Out." Indian students representing more than 60 tribes who members attended BYU took part in this program that has proved popular wherever it has been staged.

Recreation guide to Calif. desert available

Places such as Hole-in-the-Wall, Trona Pinnacles, Calico Ghost Town and El Mirage Dry Lake are pinpointed and described for visitors to the California Desert in a new recreation guide published by the U. S. Bureau of Land Management.

The publication is BLM's High Desert Recreation Resources Guide that is designed to assist visitors to the Mojave Desert region of the California desert.

"This map is intended as a general guide to the high desert for the tourist or newcomer to the desert, but also will be useful to the intensive user like the rockhound or off-road vehicle enthusiast," Ed Hasty, California state director for the BLM, said.

The approximate center of the map is Barstow, site of the BLM's first desert way station which was opened to the public in 1974. The guide was developed to answer the

questions of visitors to the way station, which also is headquarters of the BLM's High Desert Resource Area, and also to provide answers to questions visitors frequently ask the BLM's desert rangers. The guide lists such cultural features as Indian petroglyph sites, BLM campgrounds, geological formations and popular off-road vehicle recreation areas. In addition, the locations of rockhounding areas where 25 different materials can be found are shown.

Copies can be obtained from the Barstow Way Station, Bureau of Land Management, 831 Barstow Rd., Barstow, CA 92311; from the BLM's Riverside District office, 1695 Spruce St., Riverside, CA 92507, from the California State Office, 2800 Cottage Way, Sacramento, CA 95825; or locally at the BLM's Ridgecrest Resource Area Office, 342 Segundo St., Desert Park (Wherry housing).

Promotional opportunities

Unless otherwise specified in the ad, applications for positions listed in this column will be accepted from current NWC employees and should be filed with the person named in the ad. All others desiring employment with the Naval Weapons Center may contact the Employment-Wage and Classification Division, Code 092, Ext. 2849. 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. Employees whose work history has not been brought up to date within the last six months are encouraged to file a Form 171 or 172 in their personnel jacket. Information concerning the Merit Promotion Program and the evaluation methods used in these promotional opportunities may be obtained from your Personnel Management Advisor (Code 096 or 097). Advertising positions in the Promotional Opportunities column does not preclude the use of alternate recruiting sources in filling these positions. As part of the rating process, a supervisory appraisal will be sent to the current supervisor and the most recent previous supervisor of those applicants rated as basically qualified. The Naval Weapons Center is an equal opportunity employer and selection shall be made without discrimination for any nonmerit reason. The minimum qualification requirements for all GS positions are defined in CSC Handbook X-118, while those for all WG, WL and WS positions are defined in CSC Handbook X-118C.

Apprentice positions for Electronics Mechanic, first year, WG-2614-01, \$4.97 per hour; and Machinist, first year, WT-3414-01, \$4.80 per hour — This announcement will be used to fill vacancies in the Naval Weapons Center Apprenticeship Program. This is a four-year program providing a combination of classroom instruction and practical work experience designed to provide the skills and knowledge required to work as a Journeyman mechanic/machinist. After successful completion of each year's training, participants will be advanced through second, third and fourth year apprentice status with periodic pay increases. Upon completion of the program, participants will be eligible for promotion to the journeyman level. Job Elements: Ability to learn an apprentice trade, ability/willingness to perform physical tasks, interest and aptitude in trades and crafts, dexterity and coordination. A written test is required. Those who have taken the competitive test given under the Civil Service Commission Announcement FL-7-04 need not retake the test under this Merit Promotion Announcement. If a Center employee elects to retake the test under this announcement, it is his test score that will be used for rating and ranking through merit promotion procedures. File applications for the above with Eve Lou Hughes, Bldg. 34, Rm. 100 Ph. 2049.

Electrician (Test Control Systems), WG-2882-11, JD No. 441, Code 6223 — This position is located in the Ground Operations Branch, Range Operations Division, Range Department. Duties are to plan, modify, construct and test electric and electronic equipment and installations intended for use in experimental and developmental equipment for range studies and tests. Job Relevant Criteria: Knowledge of electrical theory and of electrical equipment and use of tools; ability to troubleshoot (electrical); knowledge and use of electrical measurement and test equipment; knowledge of safety practices; ability to read and interpret electrical blueprints and schematic drawings; knowledge of shop mathematics, and the ability to do the work of the position without more than normal supervision.

Electronic Engineer, GS-855-11, PD No. 7437054, Code 6222 — This position is located in the Track Operations Branch, Range Operations Division, Range Department. Duties are to provide, specify, operate and maintain communication, data acquisition and processing equipment, electronic measurement and auxiliary instrumentation equipment; to establish design criteria for the measurement techniques required for meeting specialized needs; and to maintain and expand the performance limits of the instrumentation systems. Job Relevant Criteria: Thorough knowledge of electronic engineering with electronic instrumentation experience; experience in the processing of electronic and photographic data.

Electronics Technician, GS-854-11, PD No. 7437055, Code 6221 — This position is located in the Air Operations Branch, Range Operations Division, Range Department. The incumbent designs and develops digital-to-analog and analog-to-digital conversion, basic and complex servo-mechanisms, and state-of-the-art digital circuitry that includes TTL, ECL, and Tri-state logic. The incumbent performs the maintenance, check-out and calibration of equipment on the aircraft range data processing digital computer system. Job Relevant Criteria: Knowledge of digital electronics theory and hardware; ability to apply basic and advanced digital electronics design and development principles; ability to operate, troubleshoot and repair digital and analog electronic systems.

knowledge of ADP computer theory and operational techniques. If filled below GS-11, promotion potential to GS-11. Previous applicants need not reapply. File applications for the above with Carol Doward, Bldg. 34, Rm. 208, Ph. 2577.

Clerk-Typist, GS-322-3, PD No. 773604N, Code 36301 — This position is located in the Sparrow Program Office, Product Design Division, Engineering Department. Incumbent provides typing and clerical services to project personnel; receives and routes all incoming correspondence; reviews outgoing correspondence for procedural and grammatical accuracy; and provides statistical material at the request of project personnel. Other duties include maintaining branch files, greeting visitors, answering telephones and directing callers to the appropriate person. Job Relevant Criteria: Ability to type accurately using a magnetic card/selectric typewriter; knowledge of proper format for correspondence and reports; knowledge of Navy and NWC filing procedures. Promotion potential to GS-4. Previous applicants will be considered without reapplying.

Logistics Management Specialist, GS-344-11/12, PD No. 7736040, Code 3444 — This position is that of a logistics management specialist in the Logistics Support Analysis Section, Integrated Logistics Support Branch, Fleet Engineering Division, Engineering Department. The prime responsibility of the position is to analyze the supportability of NWC contingent systems and equipment so that ILS principles and requirements can be properly implemented throughout the life cycle of the system. The incumbent recommends and directs ILS trade-off studies, utilizes level of repair and life cycle cost analysis techniques, prepares ILS management plans, and develops and verifies computer programs. Job Relevant Criteria: Knowledge of integrated logistics support (ILS) principles and policies; knowledge of the management of ILS functions for weapon development from concept formulation through Fleet deployment; ability to program and utilize computer hardware and languages. File applications for above with Janet Thomas, Bldg. 34, Rm. 204, Ph. 2925.

Clerk, GS-361-3, PD No. 7735014N, Code 3592 — This position is that of clerk and is located in the Custody Control Office of the Electronic Warfare Department. The incumbent performs duties such as preparing destruction lists, transmittals, filing receipts, and wrapping packages for mailing off-Center and other such duties as assigned. The incumbent will also pick up and deliver classified mail and materials within the department on a daily basis. The pickup and delivery of mail may also include other on-Center groups and nearby government contractors. Incumbent must obtain a government driver's license. Job Relevant Criteria: Observed on-the-job reliability and dependability; capability to perform duties with a minimum of supervision; observed tactfulness in dealing with other people; ability to type accurately. File applications for above with Charlotte Sieckowski, Bldg. 34, Rm. 204, Ph. 3118.

Secretary (Stenography), GS-318-5, PD No. 7000002, Code 00 — This position is located in the Office of the (Continued on Page 5)



—Photo by PH2 Terry Miles

PROUD MOMENT—Lt. Nick Johnson (at left), training and NATOPS officer at Air Test and Evaluation Squadron Five, is congratulated upon his recent promotion by the VX-5 skipper, Capt. R. N. Livingston. Lt. Johnson, a native of St. Petersburg, Fla., arrived at China Lake last January from a previous assignment with Attack Squadron 25 at Naval Air Station Lemoore, Calif. He received his commission through Aviation Officer Candidate School in 1972 after graduating that same year from Eckerd College in St. Petersburg with a B.A. degree in management. He and his wife, Barbara, live in Navy housing.

DIVINE SERVICES

PROTESTANT 1015 Sunday Worship Service 0900 Sunday School — All Ages 0900 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 1130 Wednesday Noon Bible Study 0630 Thursday Men's Prayer Breakfast ROMAN CATHOLIC MASS 1700 Fulfills Sunday obligation 0700 0830 1130 Sunday Nursery, Chapel Annex 1 0815-1245 Daily except Saturday, 1135, Blessed Sacrament Chapel

CONFESIONS 1115 to 1130 1615 to 1645 0800 to 0825 RELIGIOUS EDUCATION CLASSES 1015 Sunday Pre-school thru 6th grades 1530 Wednesday Kindergarten thru sixth Sunday Seventh & eighth (Junior High) 1900 Above classes are held in Chapel Annexes across from the former Center Restaurant. Sunday evening Ninth thru 12th grades As announced "In Home" Discussion Groups Youth Rallies Contact Chaplain's Office for specifics.

JEWISH SERVICES EAST WING—ALL FAITH CHAPEL Sabbath Services every Friday 1930

UNITARIANS CHAPEL ANNEX 95 1930 Sunday Services—(Sept.-May)

Burros win...

(Continued from Page 6)

the fifth frame. A single by Mayer was sandwiched in between walks issued to Radcliff and Peter to load the bases. In this situation, Cornelius blasted an infield hit off the glove of the Victor Valley pitcher enabling Radcliff to score on the hit and Mayer on the overthrow at first base to make it (temporarily) a 3-4 ball game.

The 'Rabbits padded their lead with another tally in the sixth inning, and this set the stage for the 3-run rally that gave the Burros a short-lived 6-5 edge in the top half of the seventh.

The home run by Sarris of Victor Valley in the bottom of the seventh knotted the count at 6-6, and the 'Rabbits then salted the game away with a single run in the last half of the eighth as the result of a two bagger by Sawaia with a man on base.

In a non-league double-header on Saturday against East Bakersfield, the Burros who were limited to four hits, three of which came in the seventh and final inning, lost a 3-2 decision to the Blades in the first game, and were then lambasted 12-3 in the second contest.

In the opener at East Bakersfield, the Burros were scoreless and had just one hit until, trailing 3-0, they came to bat in the seventh and final inning. Back-to-back singles by Harbin and Haun got things going for the locals and Harbin, who had reached third base on the hit by Haun scored on a wild pitch, while Haun tallied on a double by Victor Wiggins.

In the second half of the double bill, the East High Blades parlayed 6 hits into 12 runs and a runaway 12-3 victory.

8 bowlers to represent NWC at 11th ND tourney

An 8-man team of military personnel will represent the Naval Weapons Center in the initial round of 11th Naval District bowling competition on April 2 and 3 at the Long Beach Naval Station.

Those who earned berths on the NWC team as a result of their showing in a six-game roll-off held this past Sunday at Hall Memorial Lanes, their grand total and average scores, are:

Bob Beck, 1,159 and 193; L. A. Ray, 1,143 and 190; Terry Miles, 1,120 and 186; George Wilnot, 1,115 and 186; Dave Vander Houwen, 1,100 and 183; Ron Williams, 1,090 and 182; Sam Goode, 1,077 and 179; and R. J. Mayo, 1,067 and 177.

The NWC bowlers will roll 12 games on April 2 and 3. Those whose scores place them among the top 60 per cent will advance to the second and final round of the 11th Naval District bowling tournament, also at the Long Beach Naval Station.

China Lake Little League sets Major Div. tryouts

The final tryout for youngsters interested in playing on a China Lake Little League Major Division team during the 1977 season will be held tomorrow, from 9 a.m. until noon, on diamond No. 4 (across the street from the Credit Union Building).

This will be the last chance for boys and girls between 10 and 12 years of age as of July 31, 1977, to try out. The Major Division teams will be chosen soon afterwards.

Youngsters who cannot attend this final tryout and who want to play in the "majors" should contact Bob Smith, phone 446-5476. Tryouts for the Minor and combined T-Farm Divisions will be held on April 2 and 9 at diamond No. 4 from 9 a.m. to 1 p.m. These tryouts are intended for all players 8 through 12 years of age who are not chosen for a Major Division team.

Doug's Corner...

(Continued from Page 6)

intermediate evening classes will start at 5 o'clock on those same days. Evening instruction for beginners is slated at 5 o'clock on Wednesdays.

A maximum of 10 players will be allowed to enroll in each class. Those interested can sign up at the gymnasium between the hours of 9 a.m. and 2 p.m. on weekdays.

Employee in the spotlight



Bertha Ryan

earned while she was studying part time and working full time as a member of the school's research staff. She left MIT in 1955, when she went to work for the Douglas Aircraft Corp. in Santa Monica as an aerodynamicist in the field of supersonic drag reduction.

Joined NASA in 1960

In 1960, our employee in the spotlight accepted a position with the National Aeronautics and Space Administration at Edwards Air Force Base, where she was involved in a lifting body study to determine whether a blunt-shaped craft could be landed horizontally after returning from space. Flight tests and analytical and wind tunnel studies proved the concept to be a viable one, and Bertha has the satisfaction of knowing that she worked on a forerunner of the present space shuttle, one of which, the M-2 F-3 "flying bathtub," is now on display at the Smithsonian Institute in Washington, D.C.

"I enjoyed my time with NASA very much," she says "because we had a fun project and knew some top research test pilots." Part of the fun came one day when a man mislabeled the local hospital and got Bertha's office instead. Only trouble was, since she answered the phone with "Lifting Bodies," the man thought he had the right number. The pilots included Bruce Peterson, the original "six million dollar man," Fitz Fulton, who flew a World War II-era B-29 bomber out of China Lake last year for an aircraft museum in Barstow, and several men who went on to become

astronauts.

Bertha came to China Lake in 1967 in order to take advantage of an opportunity to combine her favorite interests, analytical and applied aerothermodynamics. Since then, she's been busy not only with her regular branch work, but as an active member of several professional groups. She recently returned from participating in a workshop on Meteorological and Environmental Inputs to Aviation Systems at the University of Tennessee's Space Institute in Tullahoma. Next week, she will attend a meeting of the American Institute of Aeronautics and Astronautics in Wichita, Kan. In addition, she has found time to do some recruiting for NWC's Junior Professional Program.

Soaring Is Main Hobby

It should come as no surprise that Bertha's main outside interest is flying, and in particular, soaring. This she enjoys "because of the challenge of the decision-making process you're involved in, including how to find a thermal, how to fly it, when to leave it, and the speed to fly to reach the next thermal." Bertha's sailplane is a Schweizer 1-26A, which she built from a kit. Her power aircraft is a Piper Cherokee 140.

A member of the Soaring Society of America for the past 25 years, Bertha has held a number of official posts with this group and is presently its governor for southern California. In this capacity, she acts as the liaison between various soaring interests in the west.

In speaking of her airborne (or at least aviation-related) lifestyle, Bertha says, "I've been very fortunate in what I've been able to do. I've gotten to do the things that I've wanted, I'm still doing them, and they're still in my future."

Auction of surplus gov't property to be held here April 5

Plans were announced this week for an auction of surplus government property that will be held on Tuesday, April 5, starting at 9 a.m. at the Community Center.

Included among the more than 150 items that will be sold to the highest bidder are oscilloscopes, voltmeters, motion picture cameras, typewriters, pool tables, stoves, dressers, fluorescent light fixtures, truck beds, metal lockers, hoists, sedans, a drill press and workbench.

Everything that is to be auctioned off can be inspected prior to the sale beginning Monday, at the Defense Property Disposal Office warehouse (No. 41) and its adjoining salvage yard on weekdays between 8 a.m. and 3 p.m.

Anyone 18 years of age and over is eligible to participate in this auction sale of surplus government property, and can do so after registering by presenting proper identification between 8 and 9 a.m. on April 5 at the Community Center.

Successful bidders will have until April 12 to pay for and remove items purchased. Payment may be made in cash or by a personal check made payable to the Treasurer of the U.S.

Additional information about the auction or the manner in which it will be conducted can be obtained by calling Bill Guiliani at NWC ext. 2502 or 2538.

Name selected for club

China Lake's new club for enlisted personnel will be known as the "Shuttle," according to AE1 Ted Mason, president of the EM Club Advisory Board, which selected this name recently from a total of five suggestions that were submitted.

"Shuttle" was proposed by CW03 Gerald Robison, in honor of this nation's Space Shuttle project. By early May, according to Jim Petty, club manager, the facility's ballroom will be temporarily decorated with "disco astro scenes" — cut-outs of astronomical objects, to be used in conjunction with strobe lighting.



NAVY RELIEF SOCIETY AWARDS PRESENTED — Rear Admiral R. G. Freeman III, NWC Commander and president of the China Lake Branch of the Navy Relief Society, attended Tuesday's luncheon meeting of the Military Wives Club to commend those who have given freely of their time to aid servicemen and their dependents in time of need by serving as NRS volunteers. The Skipper is shown congratulating Mrs. Floyd Castillo, who received a 1,000 hour pin. Looking on (from left) are Mrs. Richard Reed and Mrs. Robert Conner, who each received 100 hour pins. One other honoree, Mrs. Stephen Casmer who has contributed 2,500 hours of service as a Navy Relief Society volunteer, was unable to be present for the photo. —Photo by Ron Allen

The Rocketeer

Official Weekly Publication Naval Weapons Center China Lake, California

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DEADLINES

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NWC realignment affects Admiral's Cup competition

The Naval Weapons Center's organizational realignment which, last December, resulted in disestablishment of the Naval Air Facility as a separate command has led to a new line-up in athletic competition for the Admiral's Cup.

Instead of NAF and NWC teams there are now teams from NWC North (former air field and Explosive Ordnance personnel), from NWC South (military personnel from the Dispensary, Supply Department, Communications and other "mainside" duty stations) and VX-5.

The next Admiral's Cup competition will be a volleyball tournament which is scheduled to start at 5 p.m. on Tuesday, Wednesday and Thursday, at the Center Gym.

Next Tuesday's game will match the South team vs. VX-5, on Wednesday it will be the North vs. VX-5, and on Thursday the North and South teams will have at it.

At the present time, the NWC South team has a slim lead in the Admiral's Cup standings with 23 points, compared to 21 for NWC North and 18 for VX-5. A first place finish in volleyball will be worth 5 points to the winning team, while the teams that finish second and third will receive 3 points and 1 point, respectively.

97 women golfers compete in tourney hosted by local club

Nearly 100 women golfers, all members of the Western American Golf Association (WAGA), competed here last week in a tournament hosted by the China Lake Women's Golf Club.

Winds up to 25mph and rain made for difficult playing conditions during this event, which drew entries from as far away as Laguna Hills. Of the 97 golfers entered, 77 were from out of town.

The tournament's team trophy was garnered by the China Lake team composed of Nancy Webster, Mary Ann Castor, Nona Turner and Susan Halop, whose combined score for this 18-hole event was 308.

Individuals who led the field were Dorothy Brunzell, from the North Kern golf course in Bakersfield, who turned in a low gross score of 82, while Carolyn Littlejohn, of the Kern City course in Bakersfield, had the low net score of 72 (including a 30 handicap).

The low net winners and top two runners-up in order of finish in each flight were as follows:

Hostess flight (China Lake Women's Golf Club) — Nona Turner, Mary Ann Castor and Helen Brooks.

First flight — Irene Pelegrino (Los Alamitos), Gloria Chang (North Kern) and Donna Purcell (Desert Aire in Lancaster).

Second flight — Mickey Buffalow (Golden Hills, Tehachapi), Elsie Ruka and Judy Keeler (both of Valencia).

Third flight — Marilyn Woods (Los Alamitos), Joan Burk (Chevy Chase, Glendale) and Louise Hawkins (Golden Hills).

Fourth flight — Jeanette Farha (Spring Valley), Fern Gaede (Kern City) and Jackie Nicholes (Vista Valencia).

Pony/Colt League tryouts

Signups and tryouts for the 1977 Indian Wells Valley Pony/Colt League baseball season will be held tomorrow and April 2 from 9 a.m. until 1 p.m. at the middle diamond between Dobb and Richmond Roads, on the block opposite the Credit Union building.

Boys and girls 13 through 14 years of age are eligible to play in the Pony League, while 15 through 17-year-old youngsters may try out for the Colt League. Fee is \$15 per player, or a maximum of \$25 per family.

Additional information may be obtained tomorrow and next Saturday by phoning the Pony/Colt League field, 375-2777, and asking for Jack Klever or Jack Johansen.



OPENING NIGHT ACTION — In one of the lead-off games played last Tuesday at the Center gymnasium to open the 1977 Intramural Volleyball League schedule, the Desert Mix squad beat the Bump and Bruises team two out of three games, by scores of 15-4, 15-4, 8-15. Pictured at right, with back to camera, is Joan Blosser, of the Bump and Bruises team, who is popping the ball over to teammate Jackie Maddox. Waiting to return the ball, on the other side of the net, are two Desert Mixers, Diane Young (at left) and Dan Longe. League standings will be published periodically in The ROCKETEER. —Photo by Ron Allen

Burros end losing streak, win 2 of 3 league games by edging Kennedy nine

Burroughs High School's varsity baseball team rebounded from a disastrous weekend losing streak to post its second win in three Golden League games so far this season by edging the visitors from Kennedy High School in Barstow by a score of 4-2 on Tuesday afternoon.

The Kennedy High team tallied single runs in its first two times at bat, while the Burros began the game by scoring twice in the first inning. The contest remained a 2-2 tie until the bottom of the fifth frame when the locals scored once again and then added another run for insurance in the sixth inning.

Kennedy's initial run was scored by Tim Borreuil, lead off batter, who was walked, advanced to second on a mishandled bunt attempt, moved to third on a wild pitch and then crossed home plate on a sacrifice fly.

In the second frame, the Spartans' Al Lopez reached first base on an infield single, moved to second on a throwing error, stole third base and tallied on a hit by Mark Canizales.

For Burroughs in the first inning, Frank Mayer was safe at first on a fielder's choice and scored on a two-bagger by Bob Peter. The next batter, Bud Harbin, drew a walk, and moved to second when the play was made at third base to tag out Peter. Jeff Haun then came through with a timely hit to score Harbin.

The Spartans gave up the go-ahead run to Burroughs in the fifth frame. In this inning, Cruz was hit by a pitched ball to get on base and then stole second. Carle was intentionally walked and Randy Radcliff, lead off batter for Burroughs, hit safely to enable Cruz to score.



PRIZE WINNERS — A score of 82 shot by Dorothy Brunzell (at left) earned her low gross honors in the Western American Golf Association tournament held at China Lake on March 16. The low net winner with a 72 total (including 30 handicap) was Carolyn Littlejohn.

With two men out in the last of the sixth, the Burros scored the game's final run on hits by Casey Cornelius and Haun. Both base runners advanced when a balk was called on the Kennedy High hurler, and Cornelius then scored from third base when Ernie Bell hit a grounder that was too hot for the Spartans' third baseman to handle.

In other Golden League action this past week, the Burros came out on the short end of a 7-6 final score in a game played on Friday at Victor Valley High School.

According to Ed Schwartz, coach of the Burroughs High varsity nine, "a lot of crucial mistakes" cost the locals the game at Victorville. As it was, the Burros almost turned things around with a 3-run rally in the top half of the seventh inning to go ahead, 6-5, but Nick Sarris then came to bat for the Jackrabbits and sent the game into an extra inning of play with a home run blast over the head of the BHS centerfielder.

Deciding Run Scored
While the Burros were unable to score in their half of the eighth frame, a double off the bat of Wade Sawawa turned the trick for Victor Valley by driving in the game-winning run.

The Burroughs High team started off the game at Victor Valley by scoring one run in the first inning. Mayer, who was safe at first on a fielder's choice play, moved to second on a single by Peter and then tallied on a double by Harbin.

The host team then proceeded to take advantage of a variety of miscues on the part of the Burros to score one run each in the first four innings and was ahead, 4-1, when the locals came to bat in their half of

(Continued on Page 7)

Saddleback Sales drops into Premier League tie

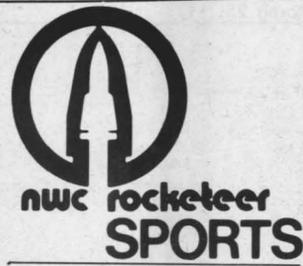
For the second week in a row, the Saddleback Sales team which previously had a firm grip on first place in the Premier Bowling League, was upset.

In Monday night's action at Hall Memorial Lanes, the fifth place Pollock Construction klegers won all three games from the Saddleback Sales team — knocking the former league leaders back into a first place tie with the Hideaway squad.

In third place, just four games behind the league leaders (who have won 57 and lost 21) are the Raytheon Sidewinders, who have a 53-25 record.

The Sidewinders came through on Monday night with the high team series (2,953) and the high team game (1,029) as they swept all three games from the Fisher Plastering team.

The top individual effort for the evening



Doug's Corner

1977 Intramural Volleyball League play under way

China Lake's 1977 intramural volleyball season began on Tuesday at the Center gymnasium.

This year there is an Open A and B League and a Coed A and B League, with five teams competing in each open division and four in each coed division. Games are played on Tuesdays through Thursdays at 6, 7:15 and 8:30 p.m.

Golf Tourney Results

Two teams tied for first place in last Saturday's Scramble Golf Tournament, which was held at the local course under the sponsorship of the China Lake Men's Golf Club.

The team of Mike Smith, Tom Jones, Bob Borgas and Don Sickle turned in a score of 65, or 7 under par, and shared the top spot with the team of Gary Wydra, Ed Brooks, Dan Wagner and Rod Zagala.

Two teams also tied for the third and fourth places with identical scores of 66. Their members were Luke Thomas, E. B. Earle, Gene Lish and Fred Anderson; and Mike Stephens, Jack Latimer, Bill Boltz and Hank Mayers.

Racketball Tourney

A "singles only" racketball tournament will be held at the Center gymnasium on Tuesday, April 12, at 5 p.m.

All military and civilian employees of the Naval Weapons Center are invited to participate. Competition will be divided into three divisions. Class "A" is designed for advanced players, Class "B" for recreation players, and Class "C" for beginners.

Entry blanks can be obtained from the gymnasium secretary on weekdays between the hours of 9 a.m. and 2 p.m. The entry fee is \$2 per person.

Softball Meeting

An organizational meeting for China Lake's upcoming softball season will be held on Monday, April 4, at 5 p.m. at the Community Center.

Items to be discussed include league organization, equipment check-out and field reservations. All interested players and coaches are encouraged to attend.

Spring Tennis Classes

Tennis classes to be taught by Fred Hagist will begin at the China Lake courts on Tuesday.

Classes for beginning and intermediate-level players will meet at 10 a.m. on Tuesdays and Thursdays, while in

(Continued on Page 7)

was Art Karrer's 703 series. Others over the 600 mark for three games were: Bob Beck (677), Dave Vander Houwen (652), Chuck Cutsinger (629), Thad Brightwell (622), Bob Kauffman (615), Kim Duckett (607), and Allen Smith (604).

Premier League bowlers who posted single game scores of 220 or higher were: Karrer (257 and 220), Beck (255 and 236), Aaron Kane (235), Vander Housen (233) and Cutsinger (228).

Current standings in the Premier League are as follows:

Team	Won	Lost
Saddleback Sales	57	21
Hideaway	57	21
Raytheon Sidewinders	53	25
NAF Hawks	43	35
Pollock Construction	39	39
Hi-Desert	39	39
King Max	32	46
Fisher Plastering	23	55
Credit Union	24	54
Elk's Lodge	23	55

Plans progressing for BLM cleanup of Rand Open Area

Preliminary work for the Bureau of Land Management's (BLM) April 2 and 3 cleanup in the Rand Open Area, near California City, is steadily progressing, according to Dick Harlow, BLM's Ridgecrest resource area manager.

Harlow said that letters have been sent to key individuals and businesses, soliciting donations for prizes to be awarded to volunteers during the clean-up in the popular off-road vehicle recreation area. "To date," he said, "we have had contributions from many sources, public and private. We plan to hide gift certificates around the cleanup area so that volunteers will find them and be able to redeem them for valuable gifts during the Saturday evening program. This serves as a form of recognition and also gives the volunteers a reward for their work."

The work weekend has been broken down into two segments. Saturday will be devoted to the actual cleanup, then on Sunday there will be an unstructured "fun-day" for the whole family. There will be BLM rangers on hand to conduct nature walks in the desert, pointing out some of the fascinating things that most people miss.

Harlow noted that during the 1976 Rand cleanup, over \$1,500 worth of prizes,

donated by more than 40 individuals and businesses, were given away.

"We are looking forward to the cleanup this year," Harlow said. "Last year it was a complete success. Over 400 eager volunteers converged on the desert and gathered up 48 tons of cans, bottles, paper, car bodies and other litter left by years of recreational use.

"We were even able to fence nine abandoned mine shafts that represented real threats to the unwary. Unfortunately, we weren't able to complete the job. That's why we are organizing again in 1977," Harlow added.

Anyone interested in participating in the April 2 and 3 cleanup should contact BLM's Ridgecrest Resource Area Office at 342 Segundo St., Desert Park, Ridgecrest, (Wherry housing) or call 375-9726.

Test flight . . .

(Continued from Page 1)

ages of the terrain with photographic images stored in the on-board computer to refine the TERCOM guidance information and zero the missile in on its target.

The Tomahawk flew terrain avoidance maneuvers at varying altitudes during the 1 hr., 18 min. test flight at White Sands.

Annual dinner slated by Desert Counseling Clinic

Ten newly elected directors of the Desert Counseling Clinic will be installed and introduced at DCC's 26th annual dinner meeting which will be held next Wednesday, March 30, at Mr. P's Playhouse, 1661 N. Triangle Dr., Ridgecrest.

A social hour starting at 6 will precede dinner and the program that will follow.

The new board members who will serve for three-year terms are: Ronald Dettling, a supervisory engineer at the Naval Weapons Center; Ernie Loscar, a carpenter at NWC; Emma Moore-Kochlacs, minister of the Trona Community Church; Michael Mower, manager of the Ridgecrest branch of the Bank of America, and Charles Porter, judge of the East Kern County Municipal Court.

Others are Lt. Richard Reed, a doctor at the Branch Hospital of the Navy Regional Medical Center; Paul Riley, dean of student

personnel services at Cerro Coso Community College; Shari Rosenberg, social studies instructor at Burroughs High School; Albert R. Williams, pastor of the First Baptist Church in Ridgecrest; and Grant B. Williams, Jr., Deputy Equal Employment Officer at NWC.

The agenda for the evening also will include reports on current activities and future plans and a Readers Theatre presentation entitled "The Many Faces of Women." This will be combination of poetry, prose and music presented by Florence Green, Joyce Maltby and Laurie King.

A steak dinner will be served with a salad and dessert buffet for \$6.50 per person. Reservations, which must be received no later than Monday, can be made by calling either Marj Boehme or Kathy Thorpe at 375-9781.



Wayne Doucette



Donald C. Gay

4 Center employees earn master's degrees from Navy Postgrad School

Four Naval Weapons Center employees will receive master's degrees in Systems Acquisition Management from the Naval Postgraduate School in Monterey during graduation ceremonies scheduled at 3 p.m. today.

Rear Admiral R. G. Freeman, III, NWC Commander, will fly to Monterey to participate in the graduation ceremonies at which the guest speaker will be Rear Admiral Donald P. Harvey, Director of Naval Intelligence.

The graduates from NWC are Donald C. Gay and Wayne Doucette, who attended NPS from January through December 1975, and Joe DiPasquale and Thomas Hamilton, who left here for Monterey in September 1975 and just now are completing their studies.

Gay is an electronics warfare analyst currently assigned to the Electronic Warfare Analysis Branch of the Electronic Warfare Department's Microwave Development Division, while Doucette is now the Sidewinder Chaparral program manager in the Engineering Department's Engineering Design Division.

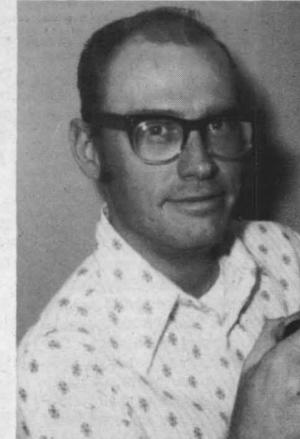
New Assignments Here

When he returns from NPS at around the end of this month or the first week in April, DiPasquale will be a technical assistant to Dr. Guy W. Leonard, head of the Engineering Department. Hamilton is scheduled to participate in the Advanced Intercept Air-to-Air Missile Program.

Gay has been employed at China Lake for nearly 12 years — coming here initially as a summer employee in 1965, and then hiring on full-time in December of that year, following his graduation with a bachelor's degree in electronics engineering from California State Polytechnic College in San Luis Obispo.

For 10 years prior to being awarded a fellowship to attend NPS, Gay was a Weapons Department employee involved in work on laser weapons systems. Both he and Doucette completed an 18-month course in a year at NPS, and then returned to the Center to write (on their own time) the thesis that was a requirement for their master's degree.

Doucette began working at China Lake in June 1964, after receiving a bachelor's



Thomas Hamilton

Department and (like Doucette) has been with that department ever since.

From the Servomechanics Branch at Salt Wells, he moved into the Shrike Systems Office and (in 1969) became head of that office. At the time his application for an NWC fellowship to attend NPS was accepted, DiPasquale was the Harpoon program manager in the Engineering Department.

Hamilton, who first became acquainted with the work at China Lake while a summer employee in 1963, was hired as a permanent employee the following January after receiving a bachelor's degree in mechanical engineering from the Missouri School of Mines in Rolla.

For the past 17 years, with the exception of the time that he has been attending the Naval Postgraduate School, Hamilton has worked in the Electro Mechanics Branch in Stran Steel buildings 3 and 4. For two months prior to leaving for NPS he was the head of this branch, which is now a part of the Weapons Department.

Some of the work in which he has been involved are the Automatic Formation Drone Control Program, Agile, and the Generic Ordnance Ramjet Engine.

Cancellation announced of show by Ray Charles

Cancellation of the Ray Charles Show is regretfully announced.

The Special Services Director was advised last Friday that, due to circumstances beyond his control, Mr. Charles will be unable to appear on April 7, as scheduled.

It is planned to reschedule his show at a later date.

All those who purchased tickets are advised that a refund is obtainable at the Community Center, between the hours of 8 a.m. and 5 p.m. Monday through Friday. Tickets must be returned to obtain a refund.



BOON TO SECURITY — The above "security bar," a Beneficial Suggestion that paid off recently for John DeRosa, an employee of the Electronic Warfare Department's RF Development Division, has now attracted the attention of the Safety and Security Department. DeRosa's design is simple and the security bar is not only inexpensive to make, but is quick and easy to use by inserting or removing it from doors equipped with panic hardware. On a bright red background, the word "Secured" is painted in large white letters that can easily be seen from a distance. According to Louise Mitchell, business manager for the RF Development Division, these security bars have saved the division a lot of grief as well as money. She is especially grateful for them when she finds at the end of the day that she has a malfunctioning lock on one of the doors. Previously, it was necessary to make an emergency trouble call and have someone come in and secure the door. This involved overtime on her part (or whoever was assigned the duty), as well as the locksmith who came to work on the door. Now, even if the lock doesn't work, the door can be secured. The new security bar also makes the check-out of the building much simpler at quitting time. Just a quick trip through the building, spotting the bars to see if they are in place, is all it takes, no more rattling and pushing on doors is required as was the case in the past. The security bar is authorized for use only during non-duty hours. —Photo by Ron Allen

Test, evaluation facilities to be upgraded...

(Continued from Page 1)

approach, but the three major ones are: (1) The complexity of testing will increase. (2) The need for better tactical simulation early in the development cycle with increased emphasis on "pseudo battlefield" environment. (3) Pressure to conserve funds will bring about reduced billet allocations for range personnel and result in automating the ranges. All of these factors plus life cycle costing were analyzed as a part of Project 21.

Two types of modernization are required at the Center's Test and Evaluation ranges and facilities. The first category is the improvements that will result in improved operational efficiency and reduced cost of operation. This category includes incorporating new evaluation techniques and upgrading and replacing aged equipment within the air and ground ranges and within the warhead, propulsion, and environmental test facilities. The second category covers new capabilities necessary to meet technical requirements, such as developments and improvements at Echo Range.

Important Trends Identified

In the Project 21 requirements analysis, a number of important trends were identified. It is foreseen that new programs for T&E will evolve from a series of systems developments in weapons. New seekers, warheads, guidance and control units will evolve from current systems, in addition to other improvements taking place. Extended launch ranges, higher speeds and other improvements to performance parameters will have to be evaluated.

Early in the development stage of new or improved systems, it is predicted that tactical simulations involving the use of military targets, countermeasures and other criteria will take place. While fewer tests will be performed, each will be far more complex and levels of instrumentation will have to be more sophisticated in order to gather critical engineering data. The costs for tests must be held to a minimum and data will be required the same day of the operation.

One Major Improvement

One major improvement in testing that is expected is the integration of weapons system simulations into the test operation.

As test data are gathered, comparisons of weapons performance versus simulations will be made in real time. A system for integrating missile software simulation into test data output has been proposed by Jim Oestreich, Code 39102. This system would allow immediate verification of weapons performance.

Long range trends in T&E at the Naval Weapons Center include continuing work for the Navy in the field of air-to-air weapons. Tri-service tests of weapons at NWC will be expanded as will service test work from the Air Force and Army. Types of projects identified include aircraft avionics, weapons tests, fuzing experiments and numerous other evaluations.

Also, it is anticipated that Navy testing for "war at sea" evaluations will be expanded especially in the areas of tactics, training and electronic warfare. In addition, Project 21 identifies a number of major test programs that will create a requirement for T&E support by NWC.

Requirements Exceed Capabilities

It became clear to the planners who drafted Project 21 that beginning in Fiscal Year 77 the technical requirements for facilities would begin to exceed the current capabilities. This, it was reported, is true in all of the major test areas, and is caused by additional T&E technical requirements.

Weapons will require more sophisticated support during the period from Fiscal Year 1980 to 2000. Therefore, upgrading of facilities is mandatory if NWC is to continue to play a key role as an air/ground test center.

Commenting on the need to modernize T&E facilities, RADM. R. G. Freeman III, NWC Commander, stated: "Aside from our people, the greatest asset this Center has is its ranges. Over the past decade they have



CONSTRUCTION WORK WELL UNDER WAY — A 50-ft. high Arctic tower containing new radar and communication equipment is scheduled to be completed and ready for service by next summer. It will house surveillance radar, a communication system and microwave links for surveillance of Restricted Area Air Space R2508. Use of this area is shared by aircraft from the Naval Weapons Center, the Air Force Flight Test Center at Edwards, George Air Force Base, Ft. Irwin and Air Force Plant No. 42 at Palmdale. The radar network, in its final configuration, will be capable of monitoring both civilian and military aircraft flights in the R2508 complex—a 16,000 sq. mi. area.

suffered from 'benign neglect' and modernization is long overdue. Project 21 is an ambitious plan, but its payoff in terms of more capability and economical testing is readily apparent. I view the execution of this plan as one with a very high priority in the Center's future efforts."

Systems cost analysis work carried out by Code 0826 for the Project 21 study shows that 76 per cent of the equipment supporting the air/ground, propulsion, warhead, and environmental ranges has exceeded its life expectancy. As a result, maintenance costs are excessive, and are just beginning to spiral upward, while test data quality is decreasing steadily.

Primary Near Term Goal

Several major modernization efforts are planned at NWC. The primary near term goal is to develop an operational Range Control Center slated for construction during Fiscal Year 79. This complex will centralize the air and ground test control, telemetry, communications and drone operations. Also scheduled during 1979 and 1980 is the introduction of the Integrated Target Control System (ITCS) for use in all drone operations. During this same time period a number of instrumentation improvements are planned for the G Range, B Range, Echo Range and propulsion - environmental - warhead facilities. Project 21 calls for a seven year modernization effort (1979 to 1986) designed to reshape the ranges. One major effort planned in 1982 is

to install a new supersonic test track as a replacement for the aging SNORT facility. "Pilot Programs" Started

In the interim period from 1977 to 1979, NWC has begun a series of specific technical projects as "pilot programs." The On-Axis and Nike-Hercules radar development projects are examples of these tasks. However, these tasks will require major financial support beginning in Fiscal Year 79, therefore NWC has submitted a revised budget for consideration by NAVAIR and OPNAV. As a result of the Project 21 briefings within the Navy RD-T&E management chain, J. William Middendorf II, the former Secretary of the Navy, directed OPNAV to review the Fiscal Year 79 Program Objectives Memorandum Issues and his guidance is as follows:

"The equipment and facilities at the Navy's test and evaluation (T&E) ranges require significant improvements in the next few years to counter the rising costs of operation and maintenance and to provide new capabilities for T&E of future weapons systems and support equipment. The amount of investment in the Navy's T&E ranges in the past few years has been relatively low and, as a result, many of the equipments and facilities are considered obsolescent.

"To provide adequate range facilities for future T&E requirements and minimize operations and maintenance costs the need for major investment effort should be

(Continued on Page 5)

Team responsible for drafting Project 21 commended by Technical Director

Dr. G. L. Hollingsworth, NWC Technical Director, made the following statement regarding his views on Project 21:

Among the many changes in our ways of doing business, increased emphasis on long range planning stands out as a change of major importance to the Naval Weapons Center. Project 21 takes on special significance among the varied activities of the Center because it is a new and vital look at an area of great significance to NWC's future.

Among the major assets of NWC, our ranges are an item of prime importance since they are, for all practical purposes, irreplaceable. Faced as they are with an increasingly difficult task, and under continuing pressure to operate with reduced manpower, good planning for expansion and replacement of outmoded equipment becomes a must. Hence Project 21; an effort of which we can all be jointly proud. It details the steps we must take to maintain and modernize these facilities during the next two decades.

Indeed, the planning was so well done that it has been a model for all of NAVAIR's test facilities, and the engineers from Code 06 who developed the method have been asked to brief planners from NATC, Patuxent River and PMTC. Ft. Mugu, so that similar plans can be developed for all of NAVAIR's test activities. To the team in Code 06 a deserved "Well done."

Participants now being recruited for One-to-One program

Persons 16 years of age and older are being recruited through the month of March for the local One-to-One program, which was established to serve children who can benefit from adult companionship and guidance.

Big brothers and sisters should be willing to spend time with boys and girls on a one-to-one basis, sharing such activities as swimming, picnicking, hiking, bicycling, window-shopping, going to movies, and interested, friendly conversation. All volunteers are covered by liability insurance, and expenses incurred in support of the program are tax deductible, since One-to-One is a tax-exempt, non-profit organization.

Children being helped may, in some cases, have an absent parent, or both parents may be ill and unable to provide them with suitable activities. In other cases, the parents may have trouble relating to their children.

In One-to-One at present are ten active partnerships, and the current campaign seeks to bring additional brothers and sisters into the program. These persons will meet each month with volunteer administrators and counselors of the Desert Counseling Center (DCC) to discuss mutual problems and share experiences.

Application forms may be obtained at the DCC, located at 814 N. Norma St., Ridgecrest. When these have been completed, personal interviews will be arranged to determine character, needs and preferences in forming a One-to-One relationship.

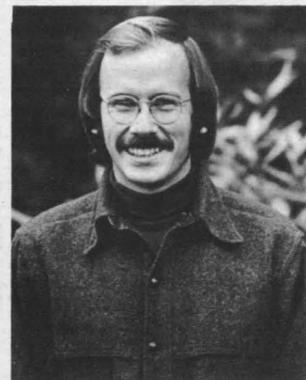
Active volunteers are currently available to present brief programs about the mutual benefits to be derived from One-to-One partnerships. Interested persons may phone Marge Boehme at 375-9781 to arrange to hear such a presentation.

Funded since its local inception in 1969 by United Way, One-to-One serves all local residents at no charge. Applications, which are required for all children entering the program, may be obtained at the DCC.

Art League to meet Mon.

Walter Giordano of Bakersfield will be the guest speaker at the monthly meeting of the Desert Art League to be held Monday, beginning at 7:30 p.m., at the Community Center.

Giordano, who paints, sculpts and has done murals, will discuss the theme of his latest work, leprechauns.



TALENTED FILM MAKER — "John Muir's High Sierra," a film sponsored by the National Geographic Society, will be presented and narrated by its producer, Dewitt Jones, at the Cerro Coso Community lecture hall tomorrow night at 7:30. Tickets for this community services event, priced at \$2 for the general public and \$1 for holders of student body cards, are on sale at the Gift Mart in Ridgecrest, the Station Pharmacy at China Lake and the college business office. They will also be available at the door tomorrow night.



SEABEES ROUGH IT IN FIELD — Rebuilding of an old windmill on the Mojave B south range, in order to pump water for use by the wildlife inhabitants of that part of the local desert area, was another of the Self-Help projects carried out here recently by members of the Air Detachment from Naval Mobile Construction Battalion Three headquartered at Port Hueneme. The active duty Seabees, who erected a small tent city and lived out in the open for nearly two weeks, still managed to eat well. On their first night in the field they supped on barbecued steak, pork chops and chicken. Making sure their food was cooked the way they like it are (l.-r. in photo at upper right) BU3 Richard Hashagen, MSC Roberto Patete and MS2 James Craig. Personnel of the 100-member Air



Detachment were joined after a week of involvement in local Self Help projects by another 350 members of NMCB-3 for a desert training exercise that was conducted under simulated combat conditions. In what were (at times) adverse weather conditions that included strong winds and some snow, the Seabees sharpened up their skills at firing 106mm recoilless rifles, 81mm mortars, M-60 machine guns, grenade launchers and M-16 rifles. Now back at the U.S. Naval Construction Battalion Center at Port Hueneme, NMCB-3 is scheduled to be divided into two teams—one of which will be leaving in April for the Philippines, Okinawa and Japan. In August, the second team will deploy to these same overseas areas in relief of the first group.

Project 21 aims at preparing NWC for 21st Century...

(Continued from Page 4)

considered for inclusion in Program Objective Memorandum '79. The requirement for both military construction, Navy and RDT&E, N funds should be addressed. Offsetting reductions in operations and maintenance costs should be identified where possible, although it is recognized that significant savings may not be available until the 1980s."

Much more remains to be done but NWC management is optimistic regarding the future of the T&E ranges and test facilities.

If the ranges are modernized, as requested by Project 21, the customer will receive better test data faster and at less cost, operations and maintenance dollars

Opportunities...

(Continued from Page 2)

Commander, Naval Weapons Center. Incumbent performs primary secretary to the Commander and performs such duties as maintaining all files; typing letters, memorandums, etc.; opening, screening and routing mail; handling and controlling classified material; screening publications for items of interest; answering and screening phone calls; greeting and assisting visitors; screening classified and unclassified messages; providing secretarial and clerical assistance to the Commander's aide; ordering and maintaining all office supplies and other duties as required by the office staff. **Job Relevant Criteria:** Ability to type efficiently and accurately and to take shorthand; knowledge of Center organization and policies, reliability and dependability, and the ability to deal tactfully with people.

Secretary (Stenography), GS-318-6/7, PD No. 7700001, Code 01 — Incumbent serves as personal secretary to the Technical Director and is responsible for the effective operation of his office and the management of his time and schedule. The position also entails the screening of both callers and correspondence to determine which individuals are to take action, the drafting of various correspondence for the director's signature, the compilation of information from diverse sources, the performance of clerical duties, and the handling of various duties related to the director's social obligations. **Job Relevant Criteria:** Experience in performing secretarial functions; knowledge of NWC organization and policies; ability to type and take dictation accurately and efficiently; demonstrated ability to deal tactfully and efficiently with both the public and all levels of NWC employees; demonstrated ability to communicate effectively and correctly in writing.

File applications for the above with Marge Stanton, Bldg. 34, Rm. 204, Ph. 2723.

JOB OPPORTUNITY

Bartender, NA-3, \$2.74 p/h, Code 08923 (EMO Club) — This is not a Civil Service job. Applicants must be at least 21 years old. Incumbent mixes alcoholic/non-alcoholic drinks to order, delivers drinks and receives payment or appropriate charge to credit card; may be required to serve catered parties, stock service bar, prepare garnishes, wash glasses and other bar equipment. Desirable qualifications: Must have ability to follow instructions and deal effectively with people, and have experience in preparing alcoholic beverages.

File applications for the above with Cheryl Hartley, Bldg. 34, Rm. 204, Ph. 2674.

will be saved, and the maintenance cost spiral will be eliminated.

W. R. Hattabaugh, head of the Test and Evaluation Directorate, and Reed have been spearheading the promotion of Project 21 within the Navy. Hattabaugh stressed that "The NWC ranges are a national resource of high importance in this country's defense posture. The 1,700 square miles of real estate, coupled with a very large area of restricted airspace, make NWC the largest R&D test activity in the Navy. If we are to meet the technological challenges of tomorrow, we must embark upon an ambitious plan of modernization."

Investment in the Center's T&E facilities will result in a significant increase in capacity to perform work, and will provide the Navy with the continuing capability to evaluate complex air weapons, surface weapons, and electronic warfare systems during the period from Fiscal Year 1977 to 2000.

During February 1977, Reed was appointed by the Naval Air Systems Command to head a study team with the mission of developing a five year plan for all Navy T&E facilities. This effort was based on Project 21 studies performed at all other activities (Naval Air Test Center, Pacific Missile Test Center, Atlantic Undersea Test Center, and others). A \$165 million program of modernization was proposed for funding during FY 79 to FY 83.

This program was forwarded via NAVAIRSYSCOM, the Chief of Naval Material, and Assistant Secretary of the Navy for Research and Development to the Deputy Director for Test and Evaluation for approval. "As a direct result of the NWC Project 21 study, the Navy has succeeded in initiating a total modernization effort for the Navy," stated Reed.

In order to be prepared for tomorrow, action is being taken today. One major step is Project 21.



CERAMIC SHOW PRIZE WINNERS — First place awards in the Desert Ceramic Club's 26th annual public show, held last Sunday and Monday at the Community Center, were won by (l.-r.) Elden Thompson, Lorraine Cash and Kym Brett. Thompson's airbrush glaze ceramic piece entitled "Humming Birds and Yucca" was voted best of show by those attending this event. Mrs. Cash entered a modern Christmas tree that was acclaimed as the best of show by club members themselves. Judges also singled out Miss Brett's "St. Francis of Assisi," a ceramic piece done in the "stains" style, as the outstanding entry by a newcomer to the Desert Ceramic Club.

—Photo by Ron Allen

Cal State Bakersfield offers three external degree programs here

California State College at Bakersfield is offering extension courses for three external degree programs in the China Lake/Ridgecrest area during the spring quarter.

Persons participating in the Masters Degree in Public Administration program may enroll in "Research Methods for Public Administration," taught by Frank Falero. The class will meet from 4 to 9 p.m. on Wednesdays, March 30 through June 8, in Rm. 107 of the Training Center.

"Marketing Management," scheduled from 4 to 9 p.m. on Tuesdays from March 29 through May 31, and "Management of Interpersonal Relations in Modern Organizations," offered Thursdays, March 31 through June 2, from 4 to 9 p.m., are both applicable to persons seeking an external BS degree in business administration. Both classes will be held at the Training Center.

Credit toward a BA degree in liberal arts will be given for a course entitled "Psychology of Women," which will be held on Thursdays, March 31 through June 9, in Rm. C-16 at Burroughs High School.

Further information about the degree programs and extension courses may be obtained by writing to the Division of Extended Studies, Cal State Bakersfield, 9001 Stockdale Highway, Bakersfield, Ca. 93309; or by calling (805) 833-2207 on weekdays from 8 a.m. to 5 p.m., or (805) 833-2283 from 5 to 8 p.m. Mondays through Thursdays.

Red Cross slates review course in advanced first aid

A five session review and update of advanced first aid will be given by Red Cross instructors and a physician who is an experienced mountain climber beginning on Tuesday, April 5, from 7 to 9 p.m., in the American Red Cross building at 55 Lauritsen Rd., China Lake.

Primarily intended for members of the IWW Search and Rescue Team, the course is open to anyone having a current first aid, paramedical or medical certificate.

Using the Red Cross Advanced First Aid book, the five classes will cover such subjects as poisoning, drugs, sudden illnesses, emergency childbirth, splinting, stretcher tie-ins, extrication from downed aircraft, first aid kits and blood pressure measurement.

Further information may be obtained by calling Carl Heller at 446-6237.

Schedule physical exams for school children now

Military personnel who have youngsters who will be entering either kindergarten or the first grade next fall are reminded that a physical exam for their child is mandatory prior to the start of the new school year in September.

An appointment for such an examination can be made by calling the Pediatric Clinic of the Naval Regional Medical Center's Branch Hospital, phone 2911, ext. 40.

Parents' cooperation is requested in bringing their child in early for this examination, which is a prerequisite for enrollment in public schools.

Physical exams of young people who plan to compete in various school athletic programs next fall will be provided during the summer months.

GEBA assessments due

Assessments are now due from members of the Government Employees Benefit Association and the China Lake Mutual Aid Society following the death this past week of Frank Lint.

The deceased, a former employee in the Specifications Branch of the Engineering Department, died March 17 in Sacramento.

GEBA and CLMAS members are asked by Larry Mason, secretary, to contact the collectors in their work area to pay this latest assessment, which is No. 393.