

WACOM Bazaar Place To Look For Gift Items

Christmas shopping is a real hassle. Why not get it over and done with early?

It can be done, and the place to do it is at the annual WACOM Christmas Bazaar, which is coming up Nov. 16 and 17 at the Community Center.

The bazaar, sponsored by the Women's Auxiliary of the Commissioned Officers' Mess, will feature 18 different "little shops" that will be set up inside the Community Center and decorated on the "Santa Village" theme.

Plans call for opening the Christmas Bazaar from 10 a.m. to 8 p.m. on Friday, Nov. 16, and from 10 a.m. to 4 p.m. on Saturday, Nov. 17.

The organizations involved in the bazaar will be raising funds for selected charities.

One of the many booths that will be set up in the "village" will be the "Hang-Up," operated by the

Newcomers' Club, where various Christmas ornaments will be offered for sale.

Alpha Alpha Psi sorority will feature homemade aprons, book markers and candles. Homemade stuffed animals, along with "Winnie the Pooh" characters will be on sale at the "Toy 'N Trim Shoppe" operated by the Methodist Women.

Other organizations participating in the bazaar are: Desert Planters, American Association of University Women, Maturango Museum, Children's Home Society, Protestant Women of the Chapel-China Lake, Indian Wells Valley Nurses' Club, American Field Service, Burroughs Band Boosters, Indian Wells Valley Association for the Retarded, Navy Wives Club of America and the Episcopal Women.

Famed Genetic Engineer To Address RESA Meeting

Dr. Robert L. Sinsheimer, internationally known genetic engineer, will speak at the fall dinner meeting of the China Lake branch of the Research Society of America (RESA), to be held on Thursday, Nov. 15, at the Chief Petty Officers' Club.

The dinner meeting is scheduled to begin at 7 o'clock. Dr. Sinsheimer will speak at 8. He is chairman, Division of Biology, at the California Institute of Technology, in Pasadena.

Dr. Sinsheimer, who holds his Ph.D. from the Massachusetts Institute of Technology in biophysics, is a renowned scientist. He was "California Scientist of the Year" in 1968 and received the Beijerinck Virology Medal of the Royal Netherlands Academy of Sciences and Letters in 1969.

His interests, in part, lie in physical and chemical properties of nucleic acids and bacterial viruses. He will discuss some of the motivations presented for the deliberate intervention in the gene pools of plant and animals species, including, particularly, the human gene pool.

Tickets to the meeting must be purchased prior to 4:30 p.m. on Nov. 13. Persons interested in attending should contact one of the following persons: Don Moore, Gil Plain, Fred Essig, Paul Amundson, Marv Backman, Bill Finnegan, or Andy Victor.



Dr. Robert Sinsheimer

Rehearsals Under Way For December Players' Production

Rehearsals are now in progress for the China Lake Players' production of "Butterflies Are Free," a comedy by Leonard Gershe.

Catbird

(Continued from Page 6) should prove to be a laugh. The real test comes a week from today when Burroughs meets Antelope Valley, which is also undefeated. That game will be at Burroughs Stadium, beginning at 8 p.m.

Last week, I mentioned how Coach Bernhardt always seems to be so solemn and worried. The one thing about him that I remember so far this year was an allusion to George Allen, coach of the Washington Redskins, right after Amos scored another touchdown against Quartz Hill, a game that Burroughs won 47-14.

As Bruce was pacing up and down the sidelines, still looking like the end of the world had come, he flashed me a brief smile and said, "This is sure better than eating chocolate ice cream."

The show will be presented early in December at the Players' Hut, 405 McIntire St., on the Center.

The role of Don Baker will be played by Chuck Jones, who was featured in the highly successful dinner-theater production at the Commissioned Officers' Mess last season. Sandee Schwarzbach, whose most recent effort was as Minnie Fay in "Hello, Dolly!" will be seen as Jo Penner, Don's swinging actress girl friend.

Supporting roles have been given to Roselle Goza, as Mrs. Baker, and Bruce Odell, as Ralph Austen. Phelps Terheun is directing the play.

Barbershop Show

The Indian Wells Valley Chapter of the Society for the Preservation and Encouragement of Barbershop Quartet Singing in America (S.P.E.B.S.Q.S.A.) will present an evening of barbershop harmony at the Burroughs High School Lecture Center on Saturday, beginning at 8:15 p.m.



STOCKING STUFFERS — The women of St. Michael's Episcopal Church will offer a variety of stocking stuffers for sale at their "St. Mike's Mart" booth when the annual WACOM Bazaar opens its doors on Nov. 16 and 17 at the Community Center. Shown preparing some of these stocking stuffers are (l.-r.) Ada Scarborough, co-chairman, Reba Alger, Hale Herold, co-chairman, and Hale Bauernshmidt. "St. Mike's Mart" will offer hand knitted hats and mittens, aprons, homemade candles and a variety of plaques and crosses to the shoppers.

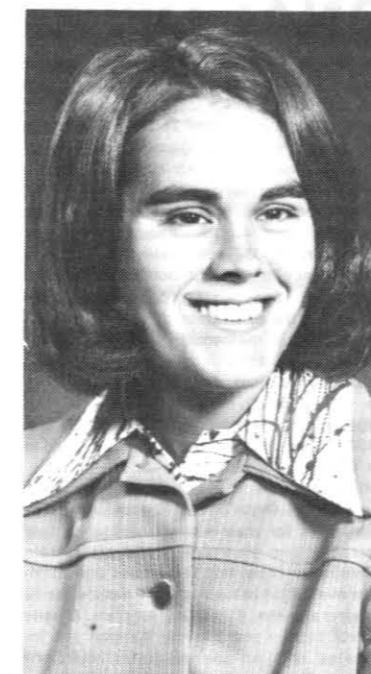
Marla McBride Chosen To Share 'Athlete' Honors

The Command Administration Department's Special Services Division has selected two fine athletes to share this month's spotlight as November "Athlete of the Month." Both outstanding tennis players, these athletes are Dick Boyd, to be profiled in next week's ROCKETEER, and Marla McBride, only the second woman to receive this honor.

Mrs. McBride won the women's doubles championship with Peggy Young in the recently concluded China Lake Tennis Club fall tournament. A versatile athlete, she also participates in flag football (the Dragons) and women's softball. Her softball team, the Zingbats, took second place in the Women's Softball League this year. Not content with just these sporting activities, Mrs. McBride helped Special Services' Marty Denkin organize a women's volleyball league and she is now organizing a team for the Women's Basketball League.

Born in Cedar Rapids, Iowa, Mrs. McBride remembers her high school in Van Horne, Iowa as being "itty-bitty," with only 20 students in her class, 10 of them girls. Of these 10 girls six were on the basketball team that, amazingly, won the state championship the year she was a senior.

Mrs. McBride taught for two years at Iowa State University in Ames, Ia., then came to Los Angeles for a two and a half year



Marla McBride

teaching stint at Patrick Henry Junior High School. She and her husband, Bill, came to China Lake in July, 1971. Bill McBride works in the Electronic Systems Department as an aerospace engineer. The McBrides enjoy the outdoor

Colorful Group Booked at COM

Metalflake Black, Candyapple Red, Mojave Green and Tooloose Chartreuse will be the accompaniment for a chick named Snow White, all led by the Pink Shrink, tonight from 9 p.m. to 1 a.m., when the "Good Time Music Band" visits the Commissioned Officers' Mess.

The innovative band, all local people, have been booked by Drake Dierkhising to play swinging sounds for a dance, all for the benefit of COM members and their guests.

All are invited.

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 accompaniment

Parent or Adult Guardian

CS - Cinemascope

STD - Standard Movie Screen

Regular starting time - 7:30 p.m.

Matinee - 1 p.m.

FRI. 9 NOV.

"40 CARATS" (108 Min.)

Liv Ullman, Edward Albert (Comedy) Liv Ullman is a 40-year-old New York real estate agent divorced from a childless, once successful actor (Gene Kelly). While vacationing in Greece, she meets 22-year-old Edward Albert; they spend a romantic night of love together. Freaked by the difference in their ages, she steals away early in the morning. (PG)

SAT. 10 NOV.

NO MATINEE

MISS RIDGECREST CHINA LAKE PAGEANT - 8 P.M.

SUN. & MON. 11-12 NOV.

"AMERICAN GRAFFITI" (110 Min.)

Richard Dreyfuss, Ronny Howard (Comedy) "American Graffiti" takes place in Modesto, Calif., in the early 60's, during the twilight of American innocence, before drugs, Vietnam, assassination and political protest. During one night, the town's teenagers cruise the city streets in their fancy cars, fighting, dueling, arguing, falling in and out of love. (PG)

TUES. & WED. 13-14 NOV.

"LIVE AND LET DIE" (121 Min.)

Roger Moore, Yaphet Kotto (Action Drama) This time out Bond is pitted against the mysterious Dr. Kananga, prime minister of a Caribbean island, who plans to attack the world's drug addicts with a mixture of heroin and voodoo. Every conceivable form of menace tries Bond's expertise. (PG)

THURS. 15 NOV.

"BAD COMPANY" (93 Min.)

Barry Brown, Jeff Bridges (Western) Drew Dixon (Barry Brown) escaping to St. Joseph, Mo. to join a wagon train headed into the western territories (1865) falls in with a young AWOL and petty crook, Jake Rumsey (Jeff Bridges), and six other runaways. The West turns out rougher than they expected. (PG)

FRI. 16 NOV.

"HELLO DOLLY" (146 Min.)

Barbara Streisand, Walter Matthau (Musical) Although short of cash, Cornelius (Michael Crawford) and Barnaby (Danny Lockin) spend a lavish evening on the town. Dolly (Barbra Streisand), an attractive widow, has her eye peeled towards enhancing her position by marrying Horace (Walter Matthau) while he is interested in Irene Molloy. (G)

Vet To Visit NWC

A veterinarian from the Naval Air Station, Lemoore, will pay a visit to China Lake on Wednesday, Nov. 14, for the purpose of giving distemper and rabies shots to the pets of active duty military personnel.

He will be available at Building Four of the NWC Dispensary (the medical storeroom) between the hours of 8:30 a.m. and 4 p.m. on that day.

A fee of \$4. for distemper inoculation and \$3 for rabies shots, will be charged.

From _____ TO _____ PLACE STAMP HERE

DTI King November Bluejacket of Month

Dental Technician First Class John Steven King, a 13-year veteran in the United States Navy, has been selected as November's "Bluejacket of the Month."

As a result of his being tapped for the honor, DTI King and his wife will spend a weekend at the Marriott Hotel, 5855 W. Century

Blvd., in Los Angeles. In addition, the couple will also receive a weekend in Bakersfield from the Greater Bakersfield Chamber of Commerce.

For the trip to Los Angeles, King will pick up the keys to a new Chevrolet from Bud Eyre Chevrolet, in Ridgecrest. While at

featuring recreation, restaurants, shops and other specialty conveniences.

A special weekend rate for members of the Armed Forces has been established at the new hotel. Military personnel may stay there on Friday, Saturday, and Sunday for \$8 per person, per night, based

on double occupancy. Single rooms are \$16 per night.

Trip to Bakersfield

For the trip to Bakersfield, the Kings will receive the use of a new Ford from Desert Motors agency, in Ridgecrest.

King, who was born in San Francisco and raised in Napa, Calif., was stationed aboard the USS Neretus, a submarine tender, prior to coming to China Lake 2 1/2 years ago.

He and his wife, Sandra, have grown very attached to the local area. King has managed to become involved in coaching youth

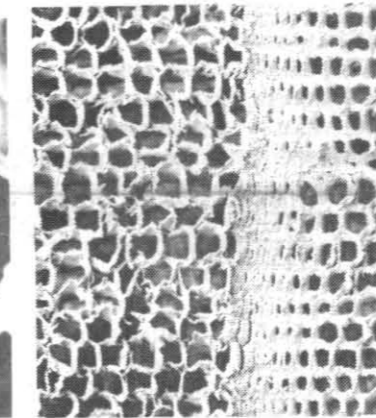
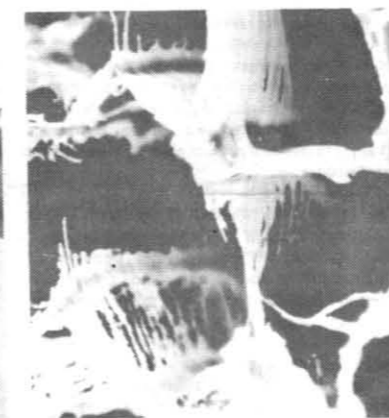
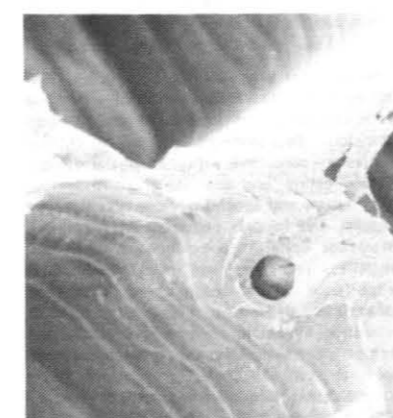
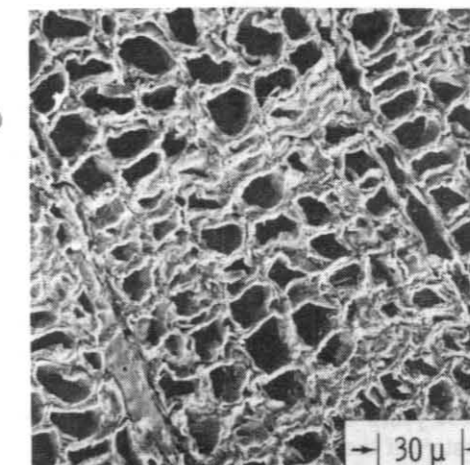
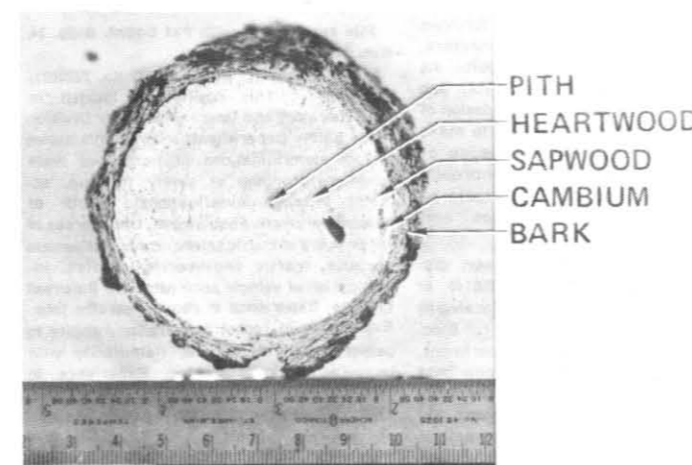
Nov. 9, 1973

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Naval Weapons Center
China Lake
California



SUPER MAGNIFICATION—Through use of the scanning electronic microscope, information not previously known about the cell structure changes that various types of wood undergo during combustion has been obtained. The top two photos show a section of Bristlecone pine—the one on right revealing the closeness of annual growth rings that grow one on top of another due to the lack of moisture. The appearance of Douglas fir before and after combustion is shown in the photos at lower left and center, while at lower right may be seen the kind of redwood growth ring detail that is uncovered by the scanning electronic microscope.

Research Work Is Undertaken On Microstructure of Wood

By Thom Boggs
Research Mechanical Engineer

For a period of several months, Kathy Poole, now a student at the University of California at San Diego, worked in the Aerothermochemistry Division (Code 608) of the NWC Research Department, first as a Burroughs High School work experience student and then as a summer employee.

Her project was a study of the microstructure of wood and how this cellular structure affects its combustion properties. This project was chosen because it combined Kathy's interest in biology with Code 608's interest in combustion.

This linking of interests was not immediately apparent at first. In fact, when Kathy's name was first proposed as a work experience student for Code 608 it appeared as somewhat of a mismatch—a biology student working with a group studying the fundamental aspects of solid propellant combustion.

Kathy's study concentrated on the ultra-structure of western conifers and the combustion of thin samples of these woods. There was a need for this study since most other wood combustion research has been done on large samples of wood and only the most perfunctory conclusions have been drawn.

The breakdown of individual wood cells during combustion has not been previously investigated. In addition, previous studies of wood ultrastructure have dealt with a few uncommon or exotic species.

The choice of western conifers was based partly on their local availability and partly on their widespread use in the construction industries.

Wood is a cellular material composed of both living and dead cells. The cross-section of a trunk or limb consists of five major areas: the bark, cambium, sapwood, heartwood and pith.

The pith is the cylindrically

shaped primary tissue at the immediate center of the tree branch or trunk. The pith is surrounded by solid, dead wood known as the heartwood. In heartwood, wood cells are void of cytoplasm and the general color of this wood is darker than the surrounding sapwood.

Sapwood is the term used to refer to that portion of the woody stem where at least some axial cells are physiologically active, performing conduction and food storage functions. Outside the sapwood is the cambial layer or cambium. This relatively thin layer is responsible for the production of wood cells and therefore is vital to the life of the tree.

The final layer is that of the bark, a normally coarse, dark-colored protective covering for the tree.

However, although biology and combustion at first seemed to be worlds apart, it was felt that some of the techniques that Code 608 had

(Continued on Page 3)

Reception For Advisory Board, Top Awards Set

The Michelson Laboratories Awards will be presented next Thursday, Nov. 15, during a no-host reception in honor of the Naval Weapons Center Advisory Board.

The reception will be held beginning at 6 p.m. in the Mojave Room of the Commissioned Officers' Mess. Presentation of the awards will take place at 7 o'clock; dinner will follow at 7:30.

The Michelson Laboratories Awards were designed to recognize outstanding individual administrative and professional excellence or technical excellence based on singular effort in performance of individual duties. The awards are complementary to the Center's highest local award—the L.T.E. Thompson Award.

Yockey Stricken

Don Yockey, editor of The ROCKETEER, suffered a heart attack last Friday at his home. He is hospitalized in Room 118 at Ridgecrest Community Hospital.

According to his wife, Louise, the well-known newspaperman is able to receive visitors and would welcome seeing friends and acquaintances.

It is unknown at this time when he will return to work. During Yockey's illness, Jack Lindsey will be filling in as editor of the Center's publication.



AIR AMBULANCE USES HELIPORT—George Galloway, a logger working in North Beach, near Nine-Mile Canyon, was injured last Tuesday when a tree he was felling hit him and knocked him to the ground. Galloway was also cut on the leg by the chain saw he was using. A helicopter, owned by the Rocky Mountain Helicopter Service, and piloted by Larry Ford, picked up the injured man and brought him to Ridgecrest Community Hospital, using the newly constructed heliport, located on NWC land. The helicopter is a French-made jet-powered Alouette III, and made the flight from Black Rock, in Nine Mile, to the heliport in just under five minutes.

Roaches Win NWC Flag Football Crown

Barton's Roaches won the Intramural Flag Football League title for the second year in a row as they defeated the Dispensary, 36-20, Wednesday night, Oct. 31.

The Roaches led the scoring as Rich LaSalle ran 60 yds. for the first touchdown on the second play of the game.

Reggie Erickson set up the first Dispensary score in the second quarter on a 40 yd. run. He was followed by Mark Ellis' 20 yd. run for the touchdown.

Cliff Paine, Mike Machowsky, Sandy Smith, Dale Dowd and Rich LaSalle accounted for the rest of the Roach points in the contest.

The fourth quarter found the Roaches pushed back to their own three yard line. Bill Stanton of the Dispensary surprised the Roaches by intercepting a pass and dashing across the goal line for six more points.

Last score of the game was made by Gary Pottelger, of the Dispensary, on a 10 yd. run.

Hawks Devour Chickens In Fast Pitch Softball

The NAF Hawks held on to win a close contest against the Col. Sanders team in a battle for the championship of the Fall Fast Pitch Softball League, held on Nov. 1.

The Hawks, who led at one time by a score of 7-0, won the American Division, while the chicken group took the National Division title in regular season play.

As in all good fables, the hawks ate the chickens, and finally won the hard-fought contest by a score of 8-5.

Jim Brown, Hawks' third baseman, hit a home run and a triple to aid his team's cause. Harlan Hershey hit a two-run round-tripper for Col. Sanders, and Ed Whittington smacked one out of the park for three more runs, to give Col. Sanders' team five runs and a run at the Hawks.

But that was all the scoring for the National Division winners. George Baland homered in the seventh inning for the Hawks.

Four Cylinder Car Club Plans Night Rallye

The High Sierra Chapter of the Four Cylinder Club of America will sponsor another navigational car rallye on Saturday. Trophies will be awarded and novices are especially invited to enter. Registration will be held from 6 to 7 p.m. in the Safeway Parking Lot at Ridgecrest Plaza. The first car will leave at 7:01.

Registration fees of \$2 per car will be charged.

Persons who desire more information are asked to call Gail Falkenberg or Terry Payne at 375-8544.

Deer Season Ends

California's late general deer hunting season will close on Sunday, the Department of Fish and Game reminded hunters this week.

Open area in the season that began on Sept. 22 include 29 northern, central valley and south state counties. The seasonal bag limit is one buck, forked horn, or better.

The New Breed won a decisive 46-6 victory over the NAF Hawks on Thursday, Nov. 1, in the last game of the season.

The New Breed's quarterback, Ron Black, led the scoring with a 60 yd. punt return and closed it out four quarters later with a pass to John Clark that went for 60 yds., and the final TD of the game.

In between there were scoring successes by Randolph Whitman, Bob Flemming, Tyrone O'Neil, Darrell Turner, John Warner and John Clark of the New Breed.

The only NAF score came in the second quarter on a 20 yd. pass from Rich Gray to Ed Mendenhall.

Monday night's contest between JD's and VX-5 was cancelled because neither team could better its standing with a victory.

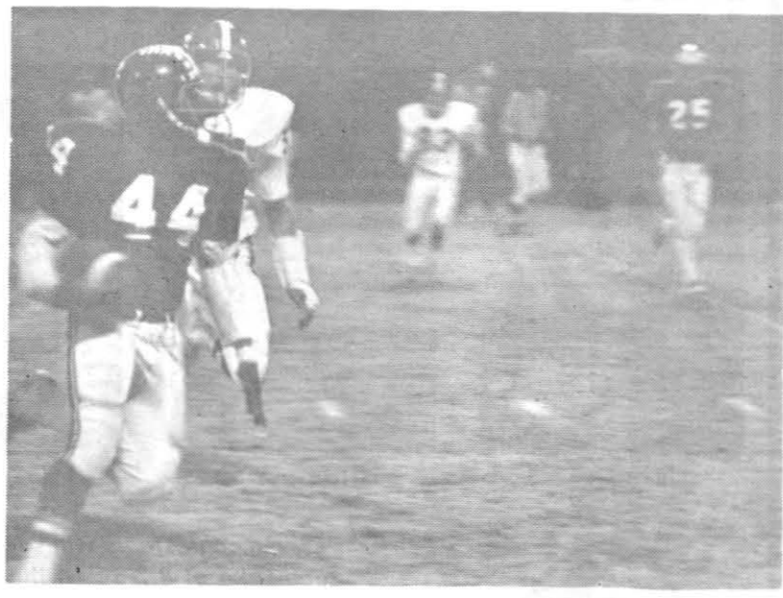
STANDINGS

Team	Won	Lost
Bartons Roaches	9	1
Dispensary	7	3
New Breed	6	4
VX-5	3	6
JD's	2	7
NAF	2	8

C. L. Golf Club Members Urged To Pay SCGA

Members of the China Lake Men's Golf Club who will want to continue carrying a qualified Southern California Golf Association handicap are urged to pay their yearly dues of \$7 to club treasurer Ed Nelson prior to Nov. 11.

"The dues must be paid by check or money order," Nelson pointed out. "Those golfers who do not pay their fees by Nov. 11 will not be carried on the SCGA handicap sheet until after January, making them ineligible to participate in tournaments, or other events," he added.



CARRYING THE MAIL — Steve Blanche (dark jersey, No. 44), fullback for the Burroughs High School varsity football team, gained 18 yds. in a sweep around right end when this photograph was taken at the game last Friday night. Blanche gained 80 yds. in 10 carries, his largest rushing figure in a single game this season. His older brother, Amos, racked up 195 yds. in 27 carries as the Burros defeated the Victor Valley Jackrabbits, 25-20, to remain undefeated in seven games thus far this year.

Dragons Undefeated; Win Women's Football Title

Not to anyone's great surprise, the Dragons are the Women's Flag Football League champions. They won the last game of the season over Comarco by a forfeit Thursday, Nov. 1.

The night before, Wednesday, Oct. 31, the Dragons handed the Independent Reruns a 40-8 defeat.

Dragon quarterback Jo Dunnick ran 20 yds. for the first score of the game. The extra points were not successful.

Diane Allen of the Reruns not only evened the score in the second quarter with a TD, but made it two points better when she ran the extra points.

But that was all she wrote for the Reruns, as they could not hold the Dragons.

Myrna Martin, Dorothy Saitz, and Laura Terrell were responsible for the other 34 points

Members and their guest will be treated to dinner by the club.

Dust Devils Set Annual Banquet

The Dust Devils Auto Club, Inc., will hold an annual installation banquet on Saturday at the Homestead Restaurant, located on Highway 14, beginning at 7 p.m.

Highlights of the banquet will be the installation of both this year's officers as well as last year's.

To be installed are Earl Raulston, president; Jim Kenney,

vice president; Dave Leighton, secretary; Don Siler, treasurer, and Ray Helm, sergeant-at-arms.

Officers for the past year, who will also be installed, are Raulston, president; Ray Lingenfelter, secretary; Siler, treasurer, and Jim Brooks, sergeant-at-arms.

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By Jack Lindsey
The undefeated Burroughs High School varsity football team rolled to another victory, this time over Victor Valley's Jackrabbits, to the tune of 25-20.

It was not an easy win. Playing before a packed Homecoming crowd, the vaunted Burros made a lot of mistakes. A 12-point turnaround occurred when one of the Burros linemen was hit with a roughing-the-kicker penalty that gave the Jackrabbits a first down and took away an almost certain TD from the Burros. Instead, Victor Valley scored to tie the game at 6-6, which is the way the extra points.

Coach Bruce Bernhardt was unhappy. Although he was quick to praise the offensive line, he berated the team for compiling 80 yds. in penalties, two of which figured in touchdowns for the Rabbits.

The two bright spots for the local team were the same two beacons of light that have been shining all year long — the Blanche brothers.

Amos had one of his finest nights of the year, gaining 195 yds. in 27 carries. Little brother Steve packed the ball 10 times for 80 yds.

Next on the list is an away game with Kennedy High School, which

was a close contest.

The game was a close contest.

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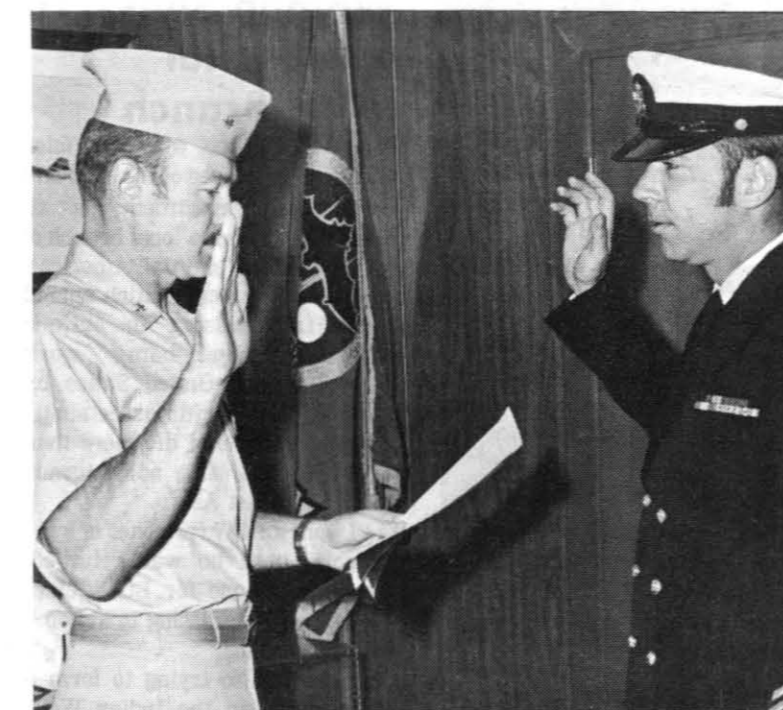
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REENLISTS FOR SIX MORE — AMCS D. V. Goodell (r.), who works in the VX-5 Quality Assurance shop, is shown being reenlisted for six more years in the Navy by Cdr. R. L. Wright, VX-5 Executive Officer. Chief Goodell came here in February 1972. He is a veteran of 14 years in the U.S. Navy.

Patent Counsel Named To California Association

Roy Miller, Patent Counsel for NWC, was recently named to the board of directors of the newly organized California Patent Law Association. Miller is the only government lawyer on the board.

A member of the California Bar since 1961, Miller received his BSME in 1956 at the University of Washington, Seattle, and a LLB degree in 1960 from George Washington University, Washington, D.C.

The new board member came to China Lake as the Patent Counsel in February 1966, following employment in the Navy Patent organization since 1960.

The California Patent Law Association was organized by a statewide group of 495 lawyers interested in the field of law that is concerned with rights in intellectual property. This field includes patents, trademark and copyright laws, trade secrets, and related matters.

The first meeting of the members of the Association was held on Sept. 13 during the State Bar

convention in Anaheim. At that time the officers and board of directors were selected. Only members of the California Bar are

eligible to serve as directors and officers in the group.

The proposed program for the new association during the first year of operation will be to take an active part in consideration of the Copyright Bill now before Congress, State bills on community property and equal rights insofar as they affect rights and ownership of inventions and literary property, unauthorized practice of patent law and fraudulent marketing practices.

The Kern County Mental Health Advisory Committee and the Desert Counseling Center will hold their annual joint meeting on Monday, Nov. 26.

The meeting, open to anyone in the community interested in local mental health, will be held at the Hideaway Restaurant.

Dinner reservations may be made by calling the Desert Counseling Center, 446-5586. Deadline for dinner reservations is Nov. 23. Dinner will be served at 7 p.m.; persons wishing to attend only the meeting may arrive at 8 p.m.

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Wood Study ...

(Continued from Page 1)
applied to the study of propellant combustion might also be used to study biological specimens.

Among the techniques Code 608 has pioneered in studying combustion are cinephotomicrography (high speed, high magnification motion picture photography) and scanning electron microscopy. It was thought that both of these techniques could be used to study the rapid oxidation of biological samples.

Since Kathy's father is the supervisor of the Sierra Pacific lumber mill, located near Little Lake, the decision of which biological specimens to choose was easy—wood was the natural choice. The choice of which oxidation reactions to study was also easy. Combustion was chosen because of the expertise of the Code 608 personnel in that area.

Based on the micrographs, Kathy was not only able to tell Dr. McEwan's group that the material was wood, but more importantly she was able to tell them it was Douglas fir.

How was she able to do this? It was simple, explained Kathy, because Douglas fir has a spiraling pattern on the walls of its cells. These spiral thickenings are present throughout the length of the cells and are found only in Douglas fir and yew trees. The micrographs of Dr. McEwan's samples had these spirals and so Kathy was able to say the wood was either Douglas fir or yew.

Since Douglas fir is commonly used in railroad cars and railroad ties, and sometimes in crates, while the wood from yew trees is not, it was assumed that the wood scraps were Douglas fir.

Miss Poole found that wood burns in a complicated fashion. It does not simply go from wood to ash—there are several intermediate steps.

The first thing that happens when the wood is heated is that the cell walls begin to weaken. In quenched samples, this cell wall weakening was evidenced by the fact that the cell walls folded under the weight of the ash.

Along with the weakening of the cell walls, the water that is confined within the cell walls escapes and the cell walls become thinner. At this time the cells also begin to separate and often a

separation of layers of cells occurs. It is then at this point that each wood observed exhibits its own characteristics.

The most conspicuous aspect of a cross-section of trunk or limb is a series of roughly circular growth rings. These growth rings have been used to date trees because usually only one growth ring is produced each year. The Bristlecone pine tree, having several thousand growth rings, was growing before the great pyramids of Egypt were built. Each growth ring consists of both early- and latewood, which are distinguishable by the difference in color and density—earlywood being lighter in color and less dense than latewood. Early- and latewood are formed according to the seasonal activity of the cambial layer.

The width of a growth ring is dependent on atmospheric conditions. These conditions may vary drastically from one year to the next. Consequently, the width of two successive growth rings may vary drastically. Because this is true, trees may be used to read the history of a particular region (droughts, etc.). This is especially true in the case of many old trees, such as the giant Sequoia and Bristlecone pine.

The cellular nature of wood is dramatically seen when viewed using a scanning electron microscope. The differences

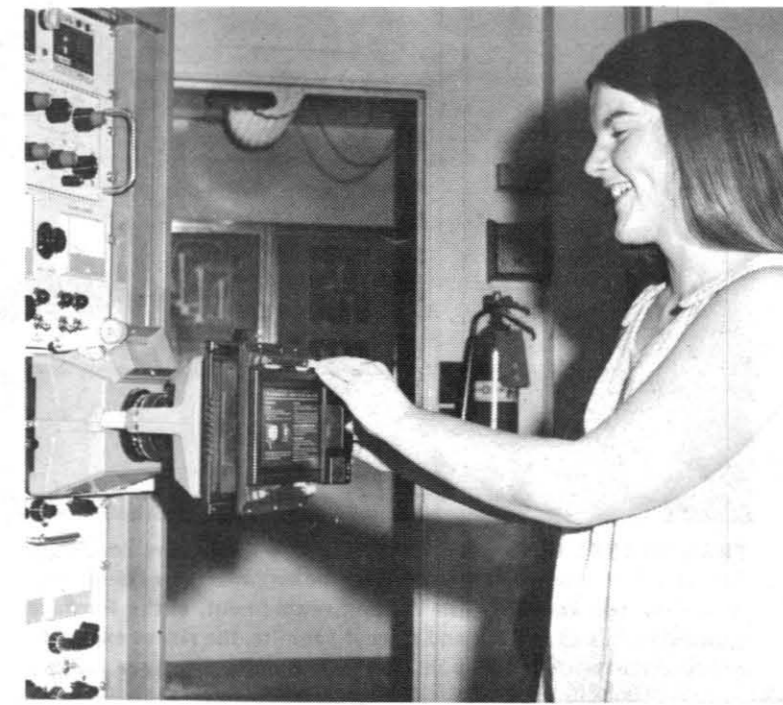
between earlywood and latewood are clearly seen. Kathy's study has also shown much more detail than can be presented in this article, but one example of how her study helped solve a practical problem can be given.

In the course of investigating the munitions train explosion that occurred earlier this year at Roseville, Calif., Dr. William McEwan (Code 605) was able to obtain scraps of material from the disaster area. Some of these scraps were viewed using the scanning electron microscope and micrographs were taken of the material's structure.

For example, Bristlecone pine undergoes complete breaks in some cells, followed by separation of cells, followed by a peeling and then melting. In contrast, Douglas fir experiences extreme cell distortion, before the separation of cell layers. The ash from Douglas fir is also unique in that a skeleton of the spiral thickening remains.

Because ash is composed primarily of mineral residues, it can be seen that the spiral thickenings of Douglas fir have a high mineral content.

This last finding was just one of several made by Kathy that have not been published previously by anyone else. An NWC technical publication based on this work is now being prepared and will be released in the near future.



VALUABLE RESEARCH TOOL—For her study of the microstructure of wood and how this cellular structure affects combustion properties, Kathy Poole, a former NWC summer employee and work experience student, had the use of the scanning electron microscope, which she is shown operating above.

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Two Earn Medals for Good Conduct



GOOD CONDUCT MEDALS PRESENTED — Capt. R. S. Moore, Commanding Officer of the Naval Air Facility, took advantage of a recent morning assembly to present Good Conduct Medals to two of the men in his command. The recipients were Dennis B. Kopolos (at left) aviation electronics technician 2nd class, and Peter L. Germano, aviation electrician's mate 2nd class. This was the first presentation of the Good Conduct Medal, which denotes four years of exemplary active service, to both of these men.



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TRAIL RIDERS BEGIN 125-MILE TREK — Ninety-five horsemen rode off into the sunrise last Sunday for the beginning of a 125-mi. trip to join the 24th annual Death Valley Encampment, at the Furnace Creek Ranch. Led by Dell and Garnet Schmitz, the riders expect to arrive at the ranch at 1:30 p.m., today. A volunteer crew of another

20 persons are assisting with hay and water for the horses, preparing meals for the riders, and setting up camp each evening throughout the annual ride, which is co-sponsored by the Equestrian Trails, Inc., Death Valley '49ers, and the Valley Riders, with the support of the Kerr-McGee Chemical Corp., in Trona.

Woman Seeks To Start Local VIVA Branch

Sue Stone, the wife of Victor Stone, an employee of the Test and Evaluation Department, is attempting to form a local branch of VIVA (Voices in Vital America). VIVA is the organization behind the MIA (missing in action) bracelets now being worn throughout the United States by persons interested in ascertaining the whereabouts of the more than 1,300 GIs who have not returned from Southeast Asia.

"I wore a POW (prisoner of war) bracelet until he was returned. Now I wear one for Lt. William Phelps, who is missing in action," said Mrs. Stone.

In addition to trying to form a VIVA group in the Indian Wells Valley, Mrs. Stone is actively campaigning for MIAs. She has, at her home at 114 Arondo St., in Wherry Housing, posters, bumper stickers, bracelets and buttons for sale. "It's important that we find out what has happened to those men," she said.

Persons who wish further information on the subject are invited to call her at 375-8683.

Electrostatics Class To Begin Nov. 13

The Training Center announces a class in Electrostatics and Explosives, to be presented by Chuck Berkey, of the Naval Weapons Laboratory, Dahlgren, Va.

The class is scheduled for three sessions, to be held from 8 a.m. to 12 noon on Nov. 13, 14 and 15.

There is still space available in the first session for Firing Officers. Interested persons are reminded that, since these are three separate sessions, an NWC enrollment form 12410 / 28 should be submitted via department channels for one session only.

Courses on Tech Typwriting, Leadership, Listening Planned

Nominations are now being taken for a self-study course in technical typewriting that is to be conducted at the Training Center.

Completed copies of NWC Enrollment Form 12410 / 28 can be submitted, via department channels, at any time to Code 654. Employees accepted for enrollment will be notified by the Training Center staff when the text for this course is available for their use.

Two semesters of typing in high school or college, or equivalent experience, is a prerequisite for enrollment in this course.

A workshop on Techniques of Listening has been scheduled on Dec. 4, 11 and 18, between the hours of 8 a.m. and 3 p.m., at the Training Center.

The workshop, which is to be conducted by Dr. Bertram Barer, of Cal-State University at Northridge, will stress how effective listening influences the produc-

tivity and performance of technical and non-technical personnel.

Employees wishing to attend this workshop should submit a completed copy of NWC Enrollment Form 12410 / 28 via department channels in time for it to reach Code 654 no later than Nov. 21.

Course for Leaders

"Conference Leadership" is the title of a 2-day course that will be conducted on Nov. 26 and 27 in Annex No. 1 at the Training Center.

Purpose of the course, which is to be presented by L. L. Verne Reynolds, of Management Skills Associates, is to increase the participants' ability to lead or take part in a conference.

Interested employees should submit a completed copy of NWC Enrollment Form 12410 / 28 via department channels in time for it to reach Code 654 no later than Nov. 16.

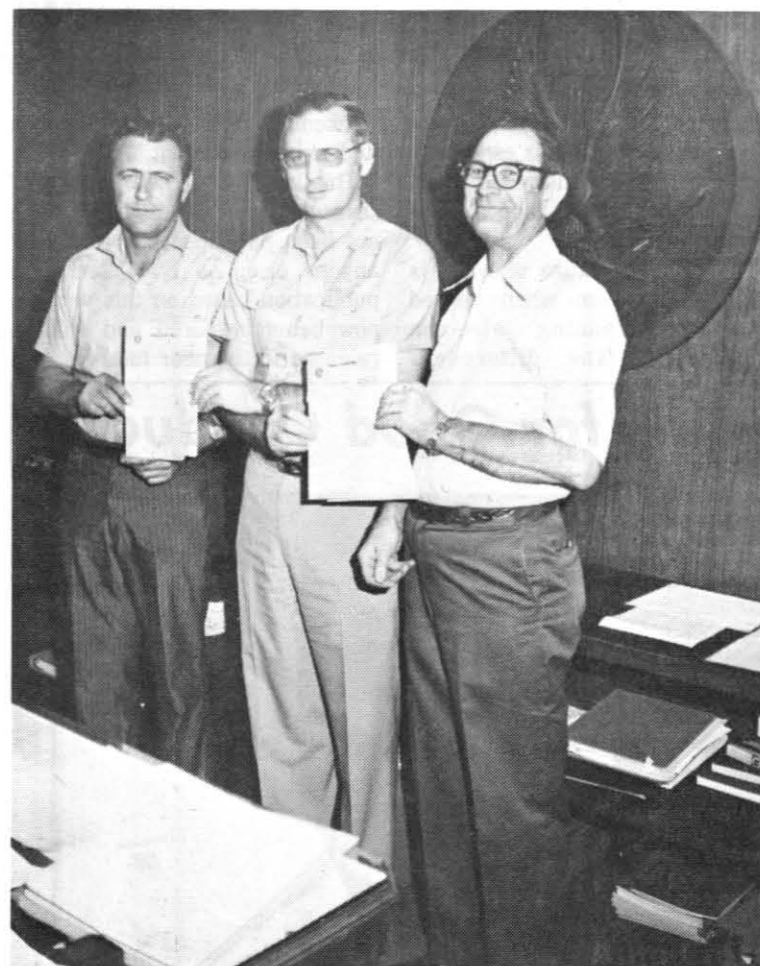
CNO Congratulates NWC on Anniversary

I take great pleasure in extending best wishes to Rear Admiral Paul E. Pugh and to all who will observe the 30th anniversary of the Naval Weapons Center, China Lake.

Since this activity was established in 1943 as the Naval Ordnance Test Station, China Lake has assumed a position of leadership in research, development, and testing of rocket-propelled weapons.

The weapons developed and the quick reaction to changing Fleet needs made notable contributions in World War II and the Korean and Vietnam wars. The capabilities of the Center and those who man it form an important element of readiness for the future.

E. R. Zumwalt, Jr., Admiral, U. S. Navy



BRIGHT IDEAS — Capt. T. R. Hendershot (c.), Director of Supply, presents Beneficial Suggestion awards to two Supply Dept. employees, Marvin R. Cornelius (l.), and Fred V. Trussler. Cornelius' suggestion for a more efficient procedure for shipping classified materials will save the government an estimated \$1,452 per year; he received an award of \$125 for this suggestion. Trussler, who received \$25, suggested a more visible means for directing customers to merchandise in Warehouse 10 through use of supermarket-type signs.

HOME COMING ROYALTY — During coronation ceremonies held just before last Friday's Homecoming Game, Queen Bev Benton donned her royal robe (right) with the help of escort Steve Nathan. Shown below are the queen and her princesses, Cathy Zurn (l.), and Cathy Fallgatter, who were seated in a place of honor before some of the overflow crowd that braved the 40-mile-an-hour wind gusts to see the Burroughs' team defeat the Victor Valley Jackrabbits, 25 to 20. Queen Bev and her court also reigned over Saturday night's Homecoming Dance in the Burroughs Multi-Use Room.



Hail And Farewell

For the month of October 1973 NEW ARRIVALS - CIVILIAN Code 12 — Kenneth M. Stephens; Code 171 — Alan S. Vokalek; Code 255 — Richard S. Nordell; Code 2911 — Judith C. Fraugh; Code 2921 — Frederick S. McCoy, Jr.; Code 2941 — Larry E. McKune; Code 3354 — Peter P. Bruce; Code 352 — Margery C. Claunch; Code 3556 — Larry L. Rollingson; Code 3712 — Gary R. Ahr; Code 4008 — Dennis N. Horgan, Jr. and Karl L. Sanders; Code 4042 — Gale R. Schneider; Code 4074 — Robert G. George; Code 454 — Jawaharlal Ramnarace; Code 4541 — Norman H. Lundstrom; Code 4552 — Lynn E. Frankovich; Code 457 — Dennis H. Giesen; Code 55 — Kay L. Moses; Code 5512 — Ruby E. Jenne; Code 5525 — Esther N. Shaffer; Code 6521 — Betty G. Anderson, Deane Campbell, Brenda D. Dunn, Patsy G. Golden, Kathleen Hall and Betty J. Osmundson; Code 7042 — Frank B. Campanaro; Code 7043 — Patrick D. Adams and Britt L. Hartzell; Code 70431 — Arthur E. Dallachle and Franklin W. Oschman; Code 70434 — Richard T. Cathey and Larry E. Mosby; Code 883 — Michael J. Sprengle; Code 84213 — Lois A. Adamo.

CIVILIAN DEPARTURES Code 2522 — Kerry W. Shacklett; Code 2542 — Lisa A. Germano; Code 2924 — Francis L. Mooney; Code 3344 — William F. Stuart; Code 3354 — Rubel J. Casados; Code 3524 — Robert G. Young; Code 4054 — Betty S. LaJeunesse; Code 4071 — Clair L. Croft; Code 4091 — Earl J. Leonard; Code 4574 — Glenn P. Anderson; Code 5132 — Raymond S. Hocken; Code 558 — Kathleen L. Brocco; Code 70303 — Michael D. Ogan; Code 70309 — Naomi Fujinami; Code 70415 — Warren K. Bebee, Sr.; Code 70423 — Charles E. Roulund; Code 843 — Charles R. Fugate; Code 883 — Arthur G. Shedlock.

NWC OFFICERS Arrivals — Lt. Ronald J. Costli. Departures: Lt. Ronald J. Costli.

VX-OFFICERS Arrivals — Lt. Frederick G. Sullivan.

NAF ENLISTED PERSONNEL Arrivals — AEAA Thomas L. Bull, AOAA Christopher P. Bushlow, SR Karen L. Canham, AZI Steven D. Claffin, SR Alice M. Kirby, AT2 James R. Lewis, HA Craig H. Miles, AEAA Richard J. Oliver. Departures: ADR3 Kent W. Bill, HM3 James D. Bona, AMH3 James L. Bowen, AKC William J. Brandtas, AN William M. Bunch, CS2 Cesar D. Catubo, HM3 Dennis D. Croyle, AK1 Robert R. McGhee, Jr., S02 Victor A. Medina, ADH3 Steven A. Rock.

VX-SENLISTED PERSONNEL Arrivals — ATAN Toni J. Boney, PNSA Peggy A. Hattaway AQ2 Robert G. Magill, AQAN Linda A. Nelson, AQAN Robert A. Tintlenot, AT1 Dennis L. Wudtke. Departures: AGC Jimmie D. Armstrong, ADCM Franklin H. Matcoim Campbell, R. Peck, AZAN Steven D. Scott, DP1 Edward E. Swafford, AQ2 Francis E. Youngblood.

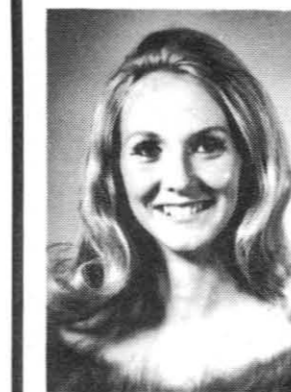
Housing Assignm'ts

Assigned houses for October 1973. "O" BEDROOM APARTMENT Huang, GS-11. "O" BEDROOM MOTEL Winter, GS-11; Robbins, GS-9; Price, GS-11; Kinnebrew, GS-12. ONE BEDROOM OLD DUPLEX Sullivan, WY56. TWO BEDROOM NORMAC Mayo, E-3; Lewis, E-3; Knight, WG-3; Graham, GS-4; Foster, EQ-2; McKune, WG-8; Gilmore, E-2; Curran, E-2; Gallejos, EQ-1. TWO BEDROOM OLD DUPLEX Gill, GS-9; Ayers, GS-4; Giesen, GS-5; Cline, WG-10; Asher, WG-9; Beswick, WG-14; Totsi, GS-5; Law, GS-7; Kushner, GS-7; Thompson, GS-7; Cajo, GS-4; Bruce, GS-7; Glaismo, GS-8; George, GS-11; Rommarco, GS-12; Vega, GS-11; Seltz, WG-10; Huston, GS-12; Jones, GS-7. TWO BEDROOM HILL DUPLEX Bates, GS-12. TWO BEDROOM WHERRY Hinkle, E-4; Sharifi, E-4; Smith, E-4; Quon, GS-5; Jones, E-4; Baraglia, GS-3; Storm, WG-10; Lineaweaver, E-5; Arredingo, WG-9; Campanaro, WG-10. TWO BEDROOM NORMAC DUPLEX Forbes, GS-11. THREE BEDROOM WHERRY Blair, WG-3; Oliver, WG-9; Ingram, WG-10; Wudtke, E-4; Pelupussey, EQ-3; Guampa, E-6. THREE BEDROOM NORMAC DUPLEX Marinicks, EQ-8. THREE BEDROOM JUNIPER Socolich, GS-11; Basso, EQ-11; Robbins, GS-9; Voklok, GS-12; Kail, LT.; Faberman, E-7; Stevens, GS-12. FOUR BEDROOM PANAMINT Hayes, L-Cdr. FOUR BEDROOM JOSHUA Godell, E-8.

Auto-Cross Planned

This Sunday the Four-Cylinder Club of America will hold its regular bi-monthly auto-cross. Enthusiasts of this sport are asked to meet in the east parking lot of Michelson Laboratory for 9 a.m. registration. For further information, Marcel Martineau (446-3940 or NWC ext. 2032) may be contacted.

Who Will Be Miss Ridgecrest/China Lake?



Julie Beck



Tricia Dye



Laura Fowler



D'Anne Garretson



Phyllis Henderson



Chris Hooper



Kelly McDonough



Mary Kay Wilson

Eleven contestants will seek the title of Miss Ridgecrest-China Lake at 8 p.m. on the stage of the Naval Weapons Center Theater tomorrow.

Tickets are priced at \$2.50 for adults and \$1.25 for those under 12 years of age and will be available at the box office. A color illustrated program book with biographical sketches of the contestants and photos and stories of the 1973 Miss America Pageant will be given to patrons.

The current reigning Miss Ridgecrest-China Lake, Susan Rungo, will crown the winner of Saturday night's pageant. The contestants will not only be vying for the crown but also sizeable scholarships to further their education at the college of their choice.

The 11 candidates, in order of their appearance, who will be judged on charm, beauty and poise in swimsuits and evening gowns, and on talent, are as follows:

Christine Hooper, Miss Fraternal Order of Police, an accomplished gymnast; Susan White, Miss Alpha Alpha Psi, who will sing "Before the Parade Passes By;" Mary Kay Wilson, Miss First Federal Savings, who will present a magic act.

Phyllis Henderson, Miss Supply Department, will perform a dance number to the music of "Voodoo Suite" by Perez Prado and his orchestra; Patricia Dye, Miss Kiwanis, will present a baton twirling number; Julie Beck, Miss Hildreth Motors, will present a dramatic reading entitled "Love," adapted from an American Girl Magazine article by Annette Cornell; and Sheril Mahan, Miss Hamel's Furniture, will vocalize the popular song "Come Saturday Morning."

Others are Sunny Wise, Miss Ridgecrest Ambulance Service, who will present an organ rendition of the hymn, "There's Something About That Name;" Kelly McDonough, Miss Comarco Recreation Club, who will sing "To Sir With Love" from the show of the same name; Laura Fowler, Miss NAF, who will present a free form dance to the rhythm of "Love Dance," pulsating with jungle sounds; and D'Anne Garretson, Miss Rotary, who will play a piano number from Shuman's "Carnival."



Sheril Mahan



Sue White



Sunny Wise

Combined Federal Campaign Contributions Now Total Half of Goal Set For 1973

Combined Federal Campaign chairman Joe Greve announced this week that as of this past Monday afternoon, contributions and pledges have totalled \$45,618.55.

Anti-Smoking Clinics To Start

The success of the recently concluded American Cancer Society-sponsored anti-smoking clinics was so marked (all finishing participants cut down an appreciable degree and many quit altogether), that more of the same have been scheduled. New clinics will be held from 2:30 to 4 p.m., and from 6:30 to 8 p.m., Mondays and Wednesdays, beginning next Monday. Persons who join the clinics will meet at the Community Center.

As registration is limited, interested parties are urged to contact Marie McLaughlin, at NWC ext. 2911 or 2015, as soon as possible.

This figure is 53.7 per cent of the 1973 campaign goal of \$85,000. Contributions have been made by 23 percent of NWC employees.

"Contributions are coming in well," Greve said, "but we still have to keep our fingers crossed that the goal will be reached." He emphasized that a pledge for a payroll deduction or a one-time contribution to the CFC helps many different worthy causes to continue their useful work. NWC employees who have not yet contributed may do so by contacting their department CFC keyman.

Greve also announced that the first NWC organization has announced CFC contributions or pledges from 100 percent of the employees working there. This is the Patent Office, a 100 percent participant in the CFC for the last several years.

Now in its fourth week, the campaign will continue through Friday, Nov. 19.



THEY ALL GAVE—DID YOU? — The first NWC organization to achieve 100 percent participation in the 1973 Combined Federal Campaign was the Office of the Patent Counsel. Mrs. Anne E. Hinz (left), patent office keyman, presents pledge cards to Mrs. Bette Clark, CFC treasurer, while Joe E. Greve, this year's CFC chairman, waits to discuss interim campaign results with Mrs. Clark. The campaign, aiding many causes, will continue until Nov. 19.