



JOYCE SANCHEZ (3256) will be one of about 2000 Albuquerque young people participating in a "Walk for Mankind" Oct. 9. If you would like to help with the fund raising effort call Jack Hinde (9231), ext. 2773.

## Sandians Helping With 'Walk for Mankind' Event

On October 9 about 2000 youngsters will walk 20 miles around Albuquerque in an event called Walk for Mankind to raise money for Project Concern, an international organization which provides low cost or free medical care to people who would otherwise not have the service available.

One of Project Concern's clinics is in operation at Bisti on the Navajo Reservation. Others are located in Tennessee, Tijuana, Hong Kong, and South Vietnam.

Many Sandians are participating in the Albuquerque fund raising effort and other volunteers are needed.

Dick Bice (3000) is honorary chairman of the Albuquerque Project Concern Committee. Pat Patterson (9230) is chairman of the Walk event. Art Eiffert (7140) is treasurer and D. Ann Streater (9230) is secretary; Lyle Wetherholt (9230) and Dick Hay (9231) are handling public relations; and Jack Hinde (9231) is in charge of traffic and control for the Walk.

Pat Patterson and Lyle Wetherholt have been flying medical supplies to the clinic in Bisti, about 30 miles south of Farmington, for a couple of years now. They report that the clinic is staffed with a full time doctor and nurse plus various assistants. The clinic has won the confidence of the Navajos and has the full support of tribal officials.

Project Concern operates four clinics in Hong Kong (including two unique "floating" clinics on boats in Kowloon Bay), another clinic in a remote Chinese village, a hospital and 25 out-patient clinics in the South Vietnam central highlands, a clinic in north central Tennessee, and a medical/dental child care center in Tijuana.

The organization is a non-profit independent agency with a staff of 147 doctors, dentists, nurses, pharmacists, technicians and volunteers. Annual budget is \$1.3 million.

Volunteers, particularly those with camper rigs, are needed to help with the local Walk for Mankind. The campers will serve as check points along the 20 mile route.



# LAB NEWS

VOL. 23, NO. 19

SEPTEMBER 24, 1971

SANDIA LABORATORIES • ALBUQUERQUE NM • LIVERMORE CALIF • TONOPAH NEV

## To Catch A Sled — Use A Laser

Recent modifications of Sandia Laboratories' laser tracker have greatly improved the system's ability to provide trajectory information on rocket sled experiments. Changes include the installation

of a more powerful laser and modification of optics on a system originally built to Sandia specifications by Sylvania Research Laboratory.

The system — mounted 2000 feet from Sandia's 5000-foot rocket sled facility — now will provide accurate tracking of vehicles traveling in excess of 5000 feet per second (about 3400 mph). In the case of vehicles ejected from the sled for a free-flight trajectory, the tracker will function to a range of at least 10,000 feet. This compares with about 5000 feet range for the original system.

The tracker was installed to eliminate the time-consuming procedure of extracting trajectory data from 70mm motion picture footage. Information is collected by bouncing a laser beam off a reflector on the rocket sled. The reflected beam is caught by a mirror and directed to instrumentation which determines the direction from which it is coming and commands the servo-assisted mirror to move in such a way that it will track the speeding object. Simultaneously, range is recorded each millisecond (thousandth of a second) by measuring the Doppler shift phase changes in a 3.2 MHz modulation on the laser beam. Elevation and azimuth are determined by measuring the vertical and horizontal "tilt" of the tracking mirror.

Data are stored in digital form on magnetic tape prior to final processing by computer. Visual documentary coverage is provided by high speed motion picture cameras which view the event through the tracking mirror.

Further development of the laser tracking system is continuing under Duane Arlowe (9323) and Bryan Cason (9334) of Sandia's environmental simulation organization.

## Fire Prevention Week Set Oct. 3-9

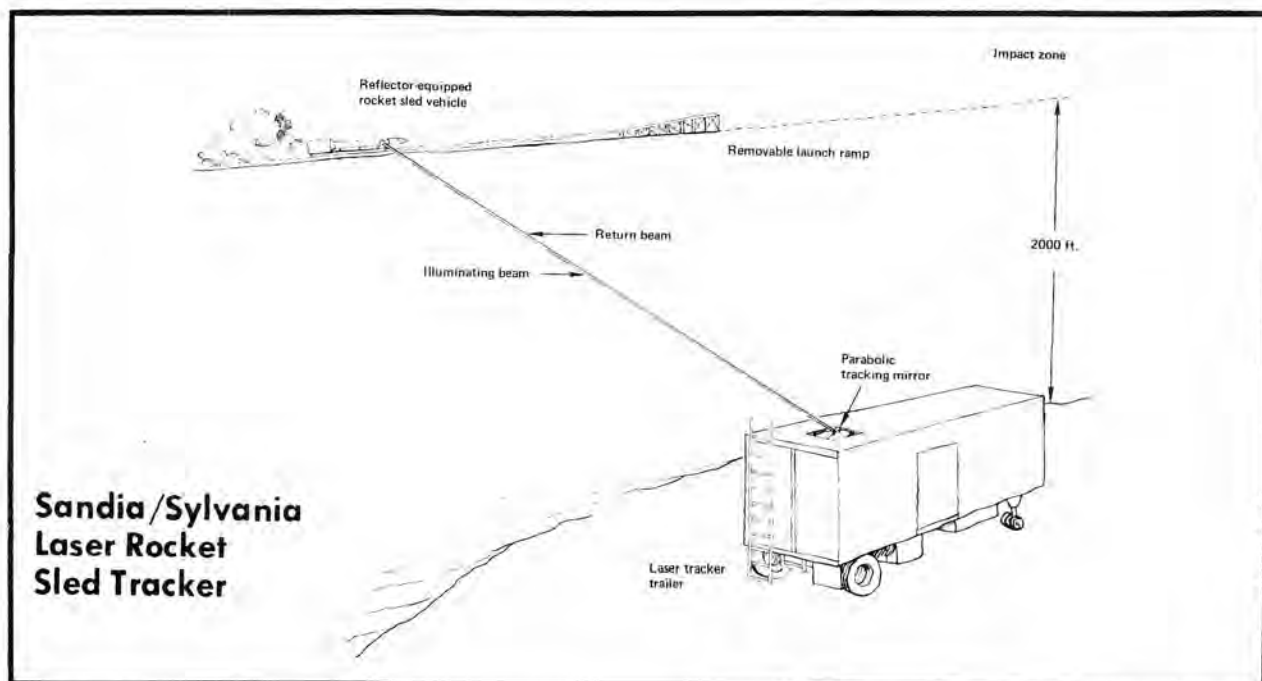
Sandia Laboratories will join with industry and government agencies throughout the nation Oct. 3-9 in observing National Fire Prevention Week. Fire drills and fire inspections will be increased during the week and a number of posters will be displayed.

The Labs will join with the Base fire protection agency in sponsoring fire extinguisher demonstrations and meetings of building fire teams. A number of young ladies named as "Firettes" will distribute literature at the meetings. Ginny Baca (3256) is one of the Firettes.

Ray Cohrs of Division 4551, which handles Sandia's fire protection program, offered a number of suggestions for fire prevention at Sandia.

Fires start small, Ray says, so the best time to put them out is in the early stages. Early detection and prompt reporting are essential. Get professional help on the way. Know the locations of fire extinguishers in your area. Also know the evacuation route for your work area.

"The best fire protection program," Ray says, "is performed by employees who are alert to the continuous hazard of fire. They practice good housekeeping and use the proper procedures for handling and storing flammable materials."





INVENTORS (l to r) George Urish (7623), John Laster (9239) and Carl Hoffman (9241) display various components mounted in interconnecting cylinders which contain 92 conductors and four coaxial cables within the walls of the cylinders. George holds circular "key-tab" which enables internal conductors to connect with component-laden circuit boards within the cavity of the cylinders.

## AEC Granted Patent for Invention by Three Sandians

A patent basic to earth-penetrating terradynamics vehicles has been awarded to the AEC in the names of Carl Hoffman (9241), John Laster (9239) and George Urish (7623). The patent is for a method of incorporating 92 conductors and four coaxial cables within the walls of interconnecting cylinders. Various circuit boards with components and larger single components are mounted inside the cylinders and the cylinders then are joined as the system is built up.

Fabrication was a prime consideration in the design of the cylinders and much of the patent is concerned with manufacturing processes.

Unique feature of the cylinder mounts is the incorporation of key tabs which extend into the cavity. These tabs connect with printed circuit boards and internal connectors.

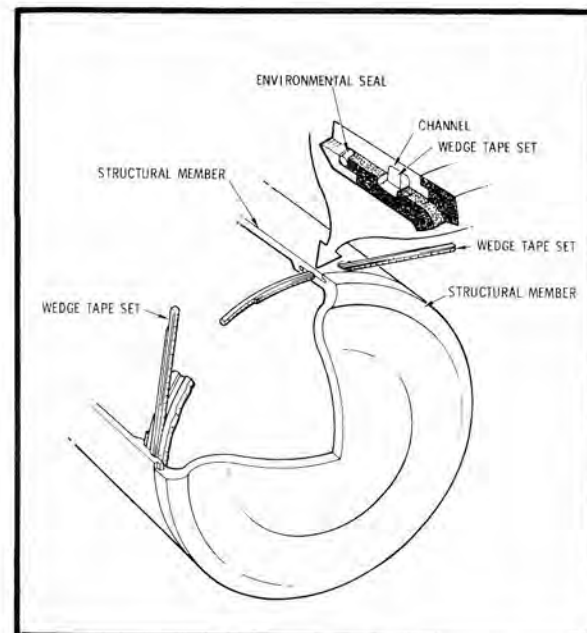
The cylinders are dropped from aircraft and thus must survive severe shock. The cylinders are also easily disassembled for repair or modification. • dg

## Amateur Radio Operators Contest

All licensed amateur radio operators employed by or retired from Sandia Laboratories are invited to participate in the annual CQ-Western Electric contest. This year the contest is hosted by the Indian Hill Amateur Radio Club at Bell Labs Indian Hill facility, Naperville, Ill. The objective of this world-wide contest is for each participant to contact as many other participants as possible via short wave radio.

The contest will be held on the first three weekends in October with each weekend devoted to a different mode of amateur radio operation. Individual awards and a traveling company trophy will be presented for top scores.

For more information contact Larry Lodge (5513), tel. 255-1137.



## Bob Alvis Invention Patented by AEC

An Invention by Bob Alvis of Exploratory Systems Design Division 1534 called a "Joint Utilizing Wedge Shaped Rectangular Locking Shafts" has been patented by the AEC.



"There was a need for a light weight, high strength structural joint on an advanced development project," Bob says. "The desired joint was to fasten two cylindrical structural members together in such a way that they formed a hermetic seal. The exterior shape had to form a smooth contour and neither member could rotate with respect to each other which eliminated the possibility of screw threads or anything similar."

Bob researched structural joining concepts in an unsuccessful effort to find a workable joint. He discarded a number of solutions to the problem before arriving at the wedge-shaped locking shafts.

The joint is formed by bringing the two structural members together to form an internal channel which runs completely around the circumference. Metal wedge-shaped tape sets are inserted into the channel. The wedging action of the tapes fill the channel and pull the interlocking members together holding them secure.

Laboratory and environmental testing proved the design met all requirements.

"It is simple, practical solution and could be used in a number of applications," Bob says. "I'll be happy to discuss it with designers with similar joining problems." • dg

## Authors

R.L. Fox (5641), "Solution for the Correlation Functions in Homogeneous Isotropic Turbulence," Vol. 14, No. 8, PHYSICS OF FLUIDS.

R.L. Gerlach and A.R. DuCharme (both 5331), "Differential Cross Sections for K-Shell Ionization of Surface Atoms by Electron Impact," Vol. 27, No. 6, PHYSICAL REVIEW LETTERS.

R.E. Luna and H.W. Church (both 5644) and J.C. Shreve (former Sandian), "Variability of Air Sampler Data," Vol. 5, No. 8, ATMOSPHERIC ENVIRONMENT.

D.A. Northrop (5313), "Vaporization in the PbTe-SnTe System," Vol. 118, No. 8, JOURNAL OF ELECTROCHEMICAL SOCIETY.

W.B. Gauster (5325), "Low-Temperature Gruneisen Parameters for Silicon and Aluminum," Vol. 4, No. 4, PHYSICAL REVIEW B.

## LAB NEWS

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### SANDIA LABORATORIES

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George Hosoda is the Photographer.



## MESSAGE from the PRESIDENT

Fellow Sandians:

From first hand experience gained last year as president of the Albuquerque United Community Fund I can tell you that the 33 agencies which comprise UCF are doing a vital job for our city and doing it well. It was my privilege to work with dedicated and compassionate people — the professional staffs of the agencies, the hundreds of volunteers who work long hours to serve the people, young and old, in the community. Theirs is a never ending task.

Our job is easy. We are asked just once a year to make a contribution which goes to all the agencies. ECP and LEAP are efficient mechanisms for collecting and channeling funds. They do more and do it better than we could by giving to each agency individually.

Most Sandia Laboratories people share my conviction and give generously. They know the true satisfaction of being part of our community. For those not yet Fair Share contributors, I urge you to reconsider. Let conscience and pride be part of your decision. Give your Fair Share.

Yours sincerely,

J.A. Hornbeck



## Message from Union Presidents

To Our Fellow Employees:

Isn't Albuquerque a wonderful place to live! Each year as the ECP campaign starts we count our blessings. We are the lucky ones. Sandians have always played a significant role in every movement for community betterment.

The Employees Contribution Plan is one way to reflect our response to community needs. ECP funds make possible the coordinated program of the 33 agencies of the United Community Fund that serves the human needs of our city. In addition, the other eight agencies of ECP support important medical research on killer diseases.

Many Sandians are grateful that local agencies provide much needed therapy and services for their families. These are vital programs and desperately needed. In addition, ECP funds support agencies such as Boy Scouts, Girl Scouts, YMCA and others. All of our children benefit from these groups.

Since we are solicited only once each year, we urge you to consider seriously the Fair Share option on your payroll deduction card. If you don't do it, it won't get done. Check the Fair Share. Do it now.

Sincerely,

Maxine Stephenson  
President, Office and  
Professional Employees Union  
Local 251 AFL-CIO

Merle Alexander  
President, Metal Trades  
Council  
AFL-CIO

Robert L. Byrd  
President, International Guards  
Union of America  
Local 27

### 100% Fair Share Is Goal

## ECP Campaign Starting

Annual drive for the Employees Contribution Plan starts Oct. 6 with a meeting of directorate representatives and solicitors. Chuck Lanier, Albuquerque United Community Fund drive chairman, will speak at this kick-off meeting.

During the week of Oct. 7-15 department meetings will be conducted by the solicitors throughout the Laboratories. These meetings will be scheduled by the organizational representatives soon after the kick-off.

One hundred percent participation by employees at the Fair Share level is the goal of the ECP campaign. Fair Share is one hour's pay per month.

ECP funds are distributed to the 33 agencies of the Albuquerque United Community Fund plus eight other national health and welfare organizations. The American Cancer Society receives 3.3% of the ECP funds pledged, Bernalillo County Heart Association 2.8%, Cerebral Palsy Association 1%, Multiple Sclerosis Society 1.4%, Arthritis Foundation 1.8%, Easter Seal Society 1.8%, Muscular Dystrophy Association 1.7% and Cystic Fibrosis Association 0.7%. UCF receives 85 percent of ECP funds while .5% is held in reserve and distributed at the end of the year.

During the years since 1957 when ECP was organized the goal has remained the same — 100 per cent participation at the Fair Share level. Currently 44 percent of Sandia employees are participating at the Fair Share level. Eighty-three percent of Sandia employees make a contribution to ECP — a total of \$327,000 this year.

"This is an impressive dollar figure," says Jack Sivinski (1740), chairman of the ECP committee. "It is commendable in the light of our reduction in force and generally tight economic situation but then Sandians traditionally have been leaders in their response to community needs. And community needs are still what ECP is all about. Those of us who can take care of those who can't. Still, some at Sandia are not participating fully in this program, and we sincerely hope these people will review the advantages of ECP and make a decision for Fair Share."

# LIVERMORE NEWS

VOL. 23, NO. 19

LIVERMORE LABORATORIES

SEPTEMBER 24, 1971

Goal is 100% Participation

## LEAP Drive Starts Monday

The 1971 Livermore Employees' Assistance Plan (LEAP) campaign gets underway at the Laboratories this coming Monday, Sept. 27. During the week-long campaign, solicitors will contact each person at the Laboratories.

Through LEAP, Sandians participate in a program which supports local and national health and service agencies in addition to the United Bay Area Crusade (UBAC) agencies. Campaign Chairman Ralph Cozine (8131), urges people to keep in mind the Crusade slogan, "If you don't do it — it won't get done."

This year 10 percent of contributions goes to five agencies in the local area, fifteen percent goes to CHAD (Bay Area Combined Health Agencies Drive) which works with 12 national health agencies, and the remaining 75 percent goes to UBAC, representing 189 agencies in the Bay Area.

At employee group meetings scheduled for Monday and Tuesday, Sept. 27 and 28, the current LEAP program and allocation of funds will be explained. A film will also be shown.

Squad leaders and solicitors conducting the campaign this year include:

### Squad Leaders:

Don Starkey (8120-8180), Gary Clark (8130-8150), Mo Houk (8160-8170), Walt Dzugan (8210-8230), Joe Buchler (8250-8260), Jim Gruver (8270), Roger Everett (8310-8340-8350), and Herb Turnbull (8320-8330-9100).

### Solicitors:

Solicitors for supervision are: Jim Barham, Bill Little, Jack Wirth, Gayle Cain, Pat Gildea, Glen Otey, Dick Cook, Bill Ormond, Ken Finders, Bill Ryan, Alec Willis, Jim Mogford, Jerry Ward, Al Alford, Wes Hodges, Don Stoner, and for department secretaries, Joan Hall.

8120: Dale Irving (8121), Thora Smith (8121), John Nielson (8121), Dick Jacobson (8122), Marianne Johnson (8124), Helen Bond (8122), Charles Hunt (8125)

8130: Roy Pearson (8131), Howard Schmalte (8135-8139), Bob Facer (8136), Lutz Dahlke (8137)

8150: Ken Helmstadter (8153), Bud Clauson (8155), Curt Franklin (8157)

8160: Guadalupe Martin (8161), Pauline Kirk (8161), Dewey Farmer (8163), Don Markwell (8164), Dave Timmer (8168)

8170: Glen Quock (8172), Bob Kee (8175), Lou Fisher (8176), Tolly Williamson (8177)

8180: Bob Bedford (8181), Dave Bray (8182), Linda Will (8183), Ben Mills (8183), John Schipper (8184-8341)

8210: Mary Johnston (8212), Cyril Moy (8213), Judy Chavez (8217)

8230: Dave Abrahams (8231), Ray Leri (8231), Carol Verity (8231), Marcy Noble (8232), Mary O'Shea (8235), Barbara Carter (8236)

8250: Clark Calder (8251-8254), Dora Bowers (8256), Wayne Townes (8257), Lloyd Rothacker (8257)

8260: Jim Spirup (8261), Marge Mederios (8263), Marlene Ballou (8264), Rex Richardson (8264), Chandler Smith (8264)

8270: Vern Ivins (8271), Dan Dewhirst (8271), Joe Trembl (8271), Don DuBose (8272), Ollie Rohrback (8273), Michelle Azevedo (8273), Vern Richmond (8274), Loren Bryon (8274), Gabe Gutierrez (8275), Ferne Saylor (8275), Betty Dominguez (8275)

8310: Cal Feemster (8311), Harry Saxton (8312), Steve Taatjes (8313)

8320: Hanloy Quock (8321), Ernie Bennett (8322), Gail Voelker (8322), Sherley Fortenberry (8322), Keith Oatney (8322), Norm Wagner (8323), Karen Yung (8324-8325)

8330: Louie Tallerico (8331), Cook Story (8332), Rod Nissen (8333)

8340: John Schipper (8341-8184), Charles Hartwig (8342), Gene Neau (8343)

8350: Hugh Coleman (8351), Alice Rogers (8352), Pete Prasthofer (8353)

9100: Carl Zinn (9125), Bob Burton (9132).



Tolly Williamson (8177), left, encourages crippled child undergoing physical therapy at the Easter Seal Society's rehabilitation center.



Tolly Williamson, Joan Hall (8270), and Ralph Cozine (8131), watch nurse at Providence Hospital disassemble the membrane of an artificial kidney.

## Sandians Visit Agencies

A personal visit to organizations supported by the LEAP program usually brings greater appreciation of what they do. Each year a small group of Sandians visit some of the agencies that benefit from Sandia's program. These visits are usually stimulating and this year's were no exception.

The first stop was at the Twin Valley Division of the YMCA in Livermore, where one of the youth programs was in progress. After the visit, Roger Everett (8351) remarked "They've come a long way in the three years of their existence. I'm pleased we have a local YMCA, rather than sharing facilities elsewhere. It's gratifying to see some of the UBAC money being used in Livermore."

The group visited the Easter Seal Society's rehabilitation center for crippled children and adults in Oakland, a CHAD agency. Here physical, occupational, and speech and language therapy is available as part of many services for those who are handicapped. "I had no idea," comments Karen Young (8324), "of the many problems people in wheelchairs have in trying to live normal lives — just getting through doorways or going up stairs. I was much impressed by the efforts of the Society to eliminate structural barriers for the crippled in the new BART system and at the Oakland Coliseum."

The final stop was at Providence Hospital in Oakland where the group observed patients using artificial kidney machines. The Kidney Foundation, also a CHAD agency, provides treatment for victims of kidney diseases. "These people must go on the machine at least three times a week to stay alive," noted Tolly Williamson (8177). "Saving people's lives with a machine is really a fantastic thing! And I was fascinated watching and learning how it operates and some of the technology involved."

Other Sandians on the tour were LEAP campaign Chairman Ralph Cozine, vice chairman Bill McGuire (8273), Joan Hall (8270), and Bill Wall (8121).



Karen Yung (8324), left, and Joan Hall enjoy "mummy game" during a "Y-on-Wheels" program offered for children by the YMCA in Livermore.



Bill Wall (8121), Karen, and Joan learn first hand from a patient how an artificial kidney machine operates.

# Credit Union Reporter



By Bernie Underwood,  
Livermore Branch Manager

## Shop For Your Financing Too

How many people buy an item at one store when an identical item could be bought from another store for 25 to 40 percent less? Not many. Yet many people think nothing of using some type of instant credit plan with an "annual percentage rate of 18 percent" to finance their purchases. They could save 25 to 40 percent on their finance charges.

Most instant credit plans are set up with a minimum monthly payment allowing each one to become smaller every month. This not only increases the term of the contract but also increases finance charges as a result of extending the higher interest rate over a longer period of time. As an example, \$500 in goods or merchandise purchased from a department store using a charge card would cost the customer \$69.87 in finance costs by stretching the payments over 28 months with monthly payments of \$20.35 and figuring a 10 percent per month payment with a \$10 minimum. The same amount financed at 10.8 percent would cost the customer \$41.26 over 17 months with monthly payments of \$32. This is a savings of \$28.61 in finance charges or 38 percent.

On TV recently, a new car dealer advertised "Buy a new automobile for as little as \$99 down and only \$75 per month with a low, low interest rate." The small print read "unpaid balance of \$2500 financed over 48 months." This would amount to \$1000 finance charges making the total deferred price of the car \$3699. However, the same car financed at an 8.4 percent "Annual Percentage Rate" over 36 months would require payments of only \$79 per month. This would amount to only \$335.96 for finance charges, a whopping savings of \$764.04 or 76 percent for you, the customer.

Nowadays, almost everything is purchased at "discount" or "wholesale." Why pay retail for your financing?

Stop by and visit with us in our newly-decorated office space in Bldg. 911. We now offer the same full time, instant service (within 10 minutes) as offered at the Albuquerque office. We are here to serve you and we would like to become better acquainted with all our Livermore members, so stop and enjoy a cup of coffee while we get acquainted.

## Sympathy

To Dave Timmer (8168) for the death of his mother in Kettering, Ohio, Sept. 6.



FOUR SANDIANS HAM IT UP a bit to publicize the forthcoming production of the fantasy PIERROT, POLTROON. The play is part of the Livermore Cultural Arts Council's third fall Festival. Now an annual affair, this event gives local residents a firsthand picture of the many cultural activities available in the Valley. Our actors are from left, Dave West (8235), Karen Poor (8320), Gail Patton (8212) and Carl Schoenfelder (8313). Mark Oct. 9 and 10 on your calendar.

## Take Note

With the recent addition of Channel 14 to cable hookup in Livermore, Pleasanton, San Ramon, Dublin, and Sunol, Sandians living in the local area may take college evening courses without leaving their homes.

Starting in September, Chabot College will offer two courses — Introduction to Health and Aeronautical Navigation — each providing three units of credit. A registration-by-mail packet will be sent upon request by the Chabot College Admissions and Records Office, 25555 Hesperian Blvd., Hayward 94545, tel. 782-3000, ext. 269 or 270.

College of San Mateo will offer Professional Writing for Publication and an electronic class in Transistor Basics. For enrollment, contact Dr. Jacob H. Wiens, Director — College of the Air, College of San Mateo, 1700 West Hillsdale Blvd., San Mateo, 94402.

Canada College will offer a home economics course, Your Child's World, and a class in Home-Money Management. Enroll by contacting Ted Gilman, Associate Dean of Canada's Evening College, 4200 Farm Hill Blvd., Redwood City 94061.

\* \* \* \*

"Carrousel Capers," the annual fund-raising event of the Cerebral Palsy Center for the Bay Area, will be held at the Center's headquarters at 4500 Lincoln Avenue, Oakland, Sept. 17, 18, and 19. Open from 5 p.m. to 10 p.m. Friday, Sept. 17, and from 10 a.m. to 10 p.m. on Saturday and Sunday, Sept. 18 and 19, the event features various miniature rides for children, variety acts by popular entertaining groups from the Bay Area, and a patio dinner each night (\$2.50 for adults; \$1.25 for children under 12). Proceeds from the event go to carry on the work of caring for those afflicted with cerebral palsy

and related disabilities. The Center relies on private contributions for its financial support (Sandia's Livermore Employees' Assistance Plan pledged \$665 for 1970-71). No funds are received from the United Crusade or other public agencies.

## Chabot College Film Series Extended to Livermore Valley

Chabot College is extending its 1971-72 Film Series to the Livermore Valley with the showing of seven internationally-acclaimed films at Amador High School in Pleasanton.

The Film Series, offered as part of the College's Community Services Program, is admission free to the public. Showings begin at 7:30 p.m. Eugene Marker, a Chabot humanities instructor who has made a lifelong study of films as an art form, will lead an audience discussion following the presentation of each film.

The schedule includes: Oct. 7, "Faces" (USA); Oct. 28, "Kwaidan" (Japan); Dec. 2, "Salt of the Earth" (USA); Jan. 13, "The Fifth Horseman is Fear" (Czechoslovakia); Jan. 27, "Mr. Hulot's Holiday" (France); Feb. 18, "Fellini Satyricon" (Italy); and Apr. 13, "Grand Illusion" (France).





**HERE'S HOW!**

Coronado Club Dinner  
For Retirees  
September 1971



**LAB NEWS**  
Survey

# Keep Those Cards & Letters Coming In

Every so often, LAB NEWS surveys a sample of the Sandia population to see how they think the paper is going. Recently, we sent a questionnaire to several hundred Sandians which was worded in such a way that tabulation of replies would be an easy task. Response was good — over 70% — and a number of changes and additions to LAB NEWS are planned over the next year or so to reflect survey results.

We also asked for comment — and we got some. We've selected some of the more pointed comments and given them below. The survey question that elicited the comments: "If you were editor of the LAB NEWS what would you add, change, drop, or do differently?"

*"Find the yearly 'State of the Union' interview with Dr. Hornbeck very interesting."*

*"The comment about golf by Mr. Bowers. His opinion should not have been printed."*

*"Items about trips, e.g. to Russia, Amsterdam, appear for some people but not for others."*

*"Poor writing, mostly inconsequential material, often opinionated and biased."*

*"New paper weight and printing technique look cheap."*

*"I assume you know what you are trying to accomplish . . ."*

*"My mother-in-law enjoys it."*

*"I would stop the paper. I think it is a waste of the taxpayers money."*

*"Who cares how often they trim their hedges in Four Hills?"*

*". . . always disgusted with tear-jerking layouts of needy children for ECP . . . subtle coercion . . . money does not go largely to children."*

*"Does Sandia Labs have a dress code for males and females?"*

*"Drop the classified ads."*

*"I'd fire Don Graham."*

*"Invite contributions from employees . . . 200-300 words, a regular feature entitled 'In My Opinion' . . . controversial statements acceptable."*

*No plans to change this.*

*Mr. Bower's comment about golf: "Life's too short for golf." Our comment: It's a free country.*

*We have no special pipeline on overseas travel — someone has to tell us.*

*Crunch.*

*Change was occasioned by printer closing up shop. Present paper and printing method best available in Albuquerque.*

*Well, uh, sure . . .*

*What can we say?*

*Oops.*

*The neighbors maybe?*

*Then where does it go?*

*No.*

*We'd be faced with insurrection if we did.*

*Don's sorry he misspelled your name in a recent story.*

*We like it. Anyone care to start? Groundrules: Editor retains editorial authority over contributions.*

The LAB NEWS back page, which has been known to feature a pretty girl, prompted more comment than any other department. Here is a sampling: "Add more pretty girls!" "Why not some pictures of good-looking men once in a while? Give us girls something to look at." "Back page cheesecake — three cheers!" "I have an unmarried son and some issues are just too provocative." "Female photos very well done. Publishing an issue without this photo is grounds for twenty lashes." "I would *not* undress (sic) those lovely little girls." "Holly Beauchamp — no words needed." "The girls add nothing, in fact detract from an otherwise excellent publication." (Ed. Note: As strong traditionalists, we feel it would be unseemly to abandon this long-standing feature. But help! Send us more candidates!)

A number of respondents felt that LAB NEWS gave more coverage to activities of some organizations than to others. Perhaps so. But LAB NEWS stories are usually the result of someone taking the time to call us to relate an interesting item about the work or the people in his organization. So call us when you have such an item — we'll follow it up.

Several complained that LAB NEWS doesn't run material relating to children of employees, e.g., "Joe Jones' Boy Gets Scholarship." That's right, we don't. Too many kids and not enough space. It's basically an *employee* publication, not a family journal.

In spite of the knocks, we were gratified by the overall response to the survey and the constructive tenor of the comments. This comment gave us perhaps greatest satisfaction: "The paper spells out the spirit in the Sandia community very well." Right on — we hope so. • js

## Sympathy

To Bill Yoder (1831-1) for the death of his brother in Cleveland, Ohio, Sept. 7.

To John Shunny (3212) for the death of his father-in-law in Pennsylvania, Sept. 11.

To Bill Benedick (5134) for the death of his father-in-law, Sept. 7.

# Speakers

G.E. Laramore (5151), "Interaction of Low Energy Electrons with Solids," Summer Workshop in Theoretical Physics, Montana State University, Aug. 4, Bozeman.

D.A. Northrop (5313), R.K. Quinn (5154) and R.T. Johnson (5134), "Vaporization and Decomposition of Semiconducting As-Te-I Glasses"; C.H. Seager, D. Emin (both 5134) and R.K. Quinn, "Electronic Transport Measurements in the ASTEI Chalcogenide Glasses"; and D. Emin, "Lattice Relaxation & Small Polaron Hopping Motion," International Conference on Amorphous and Liquid Semiconductors, University of Michigan, Aug. 8-13, Ann Arbor.

R.L. Park (5331) and J.E. Houston (5332), "Analysis of Solid Surfaces by Soft X-Ray Appearance Potential Spectroscopy," Conference on Applications of X-Ray Analysis, Aug. 11-13, Denver.

J.T. Foley and M.B. Gens (both 1543), "Shock and Vibration Measurements During Normal Rail and Truck Transport," International Symposium on Packaging and Transportation of Radioactive Materials, Aug. 15-20, Richland, Wash.

W.S. Saric (5641), "Nonlinear Motion of Asymmetric Bodies with Variable Roll Rate," AIAA Guidance Control and Flight Mechanics Conference, Aug. 16-18, Stony Brook, N.Y.

E.J. Shipsey (5234), "Close Coupling Calculations of Inelastic Co-Linear Atom-Diatom Molecule Collisions with Feshback Resonances," Gordon Conference, Aug. 16-20, Wayland Academy, Beaver Dam, Wis.

L.W. Davison (5133), "Plane Compaction Wave Propagation in Porous Solids"; R.C. Reuter, Jr. (1542) and H.D. Fisher (1541), "Axial Impact of a Hollow Nonhomogeneous Cone," 1971 ASME Applied Mechanics Western Conference, Aug. 23-25, Los Angeles.

I.J. Hall (1643), "Comparison of Tests on Variances for Several Populations"; R.G. Easterling (1643), "Approximate Confidence Limits for System Reliability," American Statistical Association Meeting, Aug. 23-26, Fort Collins, Colo.

D.A. McArthur (5223), "Study of Intense Relativistic Electron Beam Propagation in Nitrogen by Observation of the 3914 Å Band of  $N^+$ "; R.T. Johnson (5134), R.K. Quinn (5154), D.A. Northrop (5313) and J.A. Borders (5111), "Memory Effects in

Semiconducting As-Te-I Glasses"; Northrop, Quinn and Johnson, "Vaporization and Decomposition of Semiconducting As-Te-I Glasses"; L.P. Bradley, J.E. Boers, D.L. Johnson, T.H. Martin, J.G. Kelly, K.R. Prestwich (all 5245), "Injection Characteristic of High Nu/Gamma Electron Beams"; R.E. Whan (5522) and G.W. Arnold (5111), "The Effect of Orientation and Fluence on the Expansion of Ion Bombarded Silicon"; C.B. Norris, E.P. EerNisse (both 5112) and H.J. Stein (5111), "Transient Conductance in Epitaxial Si/Spinel After Pulsed 10-20 keV Electron Bombardment"; W. Beezhold (5112), "Expansion in Ion-Bombarded Silicon"; C.M. Tapp (1430), P.E. Pierce and J.L. Wurtz (both 1413), "A Technique of Surface Characterization for Secondary Electron Emission Measurements During Positive Ion Bombardments," American Physical Society Meeting, Aug. 25-27, Seattle, Wash.

N.S. Gillis (5151), "Self-Consistent Approach to Anharmonicity and The Soft Mode Problem," Dynamics of Quantum Solids and Fluids Conference, Aug. 9-13, Beaver Dam, Wis.

N.J. DeLollis (5332), "Recent Developments in Adhesion Theory," Gordon Research Conference on Adhesion, Aug. 24, New Hampton, N.H.

D.M. Fenstermacher (1441), "Popular Astronomy," Sandia Civitans, Aug. 18, Albuquerque.

R.W. Russell (9343), "Lost But Not Forgotten," Sandia Civitans, Aug. 25, Albuquerque.

G.W. Gobeli (5210), E.D. Jones and J.N. Olsen (both 5214), "Picosecond Laser Irradiation of Solid Targets," Second Laser Workshop, Aug. 30-31, Hartford, Conn.

R.L. Gerlach (5331), "Applications of Ionization Spectroscopy," International Conference on Electron Spectroscopy, Sept. 6-10, Pacific Grove, Calif.

R.R. Weinmaster (1315), "Precision 295 Microsecond Delay Device," T.J. Tucker, D.L. Allensworth and J.E. Kennedy (all 5133), "Secondary Explosive Spark Detonators," Symposium on Explosives and Pyrotechnics, Sept. 8-9, Philadelphia, Pa.

S.W. Key and R.D. Krieg (both 1541), "Comparison of Finite Element and Finite Difference Methods," International Symposium on Numerical and Computer Methods in Structural Mechanics, Sept. 8-10, Urbana, Ill.

## Fire Prevention Engineer Reports Narrow Escapes By Employees At Home

As one of Sandia's fire prevention engineers, Vern Duke of Division is well known through his activities in the Laboratories fire prevention and inspection programs. So people tell him about their own close calls with fire hazards. According to Vern, the average homeowner is just too complacent about handling flammable materials.

Three recent incidents illustrate his point.

In one case, a Sandia employee was working on his car in the garage. After completing the work, he attempted to start the engine. Gasoline was pumped out of a still disconnected fuel line onto the engine and floor of the garage. A spark ignited the gasoline. Two quick shots from a dry chemical fire extinguisher put the fire out saving the home and auto from severe damage. Luckily, the employee had the extinguisher handy and acted quickly.

Another employee was cleaning engine parts with gasoline in the back yard approximately eight feet from an open door to the utility room of his house. He looked up to see a flame moving out the door toward him and the pan of gasoline. He narrowly escaped injury, and the Fire Department responded to extinguish the fire which spread to the exterior of the house.

A third employee was working on a gas furnace which heated his home. He disconnected the safety device in order to open the automatic gas valve. A gas-rich mixture accumulated in the furnace which exploded when the man attempted to light the furnace. Luckily the man's eyes were not injured and there was no serious damage.

Vern says, "If the fuel-air-ignition conditions are within explosive limits, careless handling of flammable liquids and gases can cripple or kill you and reduce your home to rubble. Please use extreme caution with these materials."

## Retiring



CHARLIE RUNYAN  
(7160)



HASKELL JACOBS  
(9471)



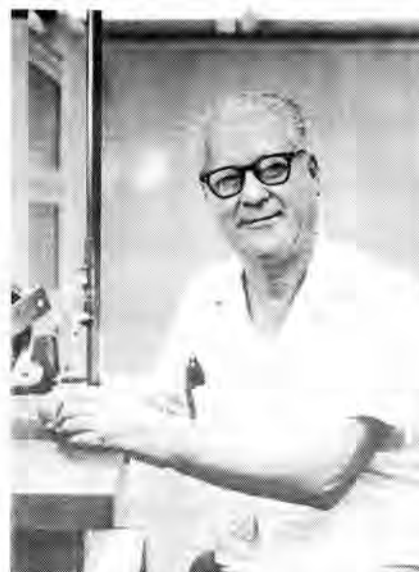
MARK MARTEGANE  
(3520)



WILLIE ROBERTSON  
(7133)



GUADALUPE MIRALES  
(4623)



ARNOLD DULZ  
(7113)

## Speakers Abroad

A. Wayne Johnson (5243), "Electronic Recombination Coefficient of Molecular Helium Ions," International Conference on Phenomena in Ionized Gases, Sept. 13-18, Oxford, England.

K.J. Touryan (5640), "Continuum Thick Sheath Studies in Hypersonic Ionized Boundary Layers," International Symposium on Dynamics of Ionized Gases, Sept. 13-18, Tokyo, Japan.

R.C. Maydew (5620) and D.W. Johnson (5626), "Supersonic and Transonic Deployment of Ribbon Parachutes at Low Altitudes," Royal Aeronautical Society Symposium on Parachutes and Related Technologies, Sept. 15-16, London, England.

A. Narath (50), "Nuclear Magnetic Resonance Studies of Dilute Magnetic Alloys," International Conference on the Electric and Magnetic Properties of Dilute Alloys, Sept. 20-24, Tihany, Hungary.

T.A. Duffey (1544), "Influence of Finite Duration Pressure Pulse on the Transient Response of Elastic Plastic, Strain-Rate Sensitive Cylindrical and Spherical Shells"; J.A. Reuscher (5222), "Analysis of Internal Heating Shock Effects in Reactor Fuel Components," and "Analysis of Internal Heating Shock Effects in Cylindrical Fuel Components," International Conference on Structural Mechanics in Reactor Technology, Sept. 20-24, Berlin, Germany.

B. Morosin (5152) and R.W. Lynch (5323), "Structure Studies on  $Al_2TiO_5$  Using a Novel High Temperature Single Crystal Furnace," International Colloquium on the Study of Crystalline Transformations at High Temperatures, Sept. 27-Oct. 1, Odeillo, France.

N.S. Gillis (5151), "Theoretical Model for Soft Modes and Structural Transformations," and S.M. Myers (5151), "NMR Studies of the  $(J=1)$ -Induced Polarization of  $(J=O)$  Molecules in Solid  $D_2$ ," Conference on Quantum Crystals, Sept. 6-10, Banff, Canada.



## Supervisory Appointment

DAVE ANDERSON to manager, Power Supply and Explosive Component Development Department 1910, effective Oct. 1.



Joining the Laboratories as a staff member in February 1959, Dave's work was in physical research — magnetic resonance and high pressure on ferroelectric and ferromagnetic solids. In 1963 he was promoted to supervisor of Physics of Solids Division, where he continued his individual research and directed his organization in work on materials development for special Sandia applications. Four years ago he transferred to Experiments Planning Division 9114, helping plan and direct Sandia's underground nuclear test program. He served as Technical Director for the Cyprus test in 1969.

Dave earned a BS degree in chemistry from Northwestern University, an MS from Harvard, and a PhD in physical chemistry from the University of Illinois. Following graduation he was a Post Doctoral Fellow at the University of Illinois. He is a Fellow of the American Institute of Chemists and a member of the American Physical Society.

Dave and his wife Marilyn have three children and reside at 3400 Groman Court NE.

## EMC Meet Set

The IEEE Mountain-West Electromagnetic Compatibility Conference will be held Nov. 11-12 on the University of Arizona campus in Tucson. Advance programs and registration information are available by writing to the EMC Conference, 2125 Avenida Planeta, Tucson, 85710.

## Variable Annuity Unit Value

October 1971 . . . . .	1.660
September 1971 . . . . .	1.603
Average 1970 . . . . .	1.417



ECP SOLICITORS Glen Baker (7142), left, and Tom Cleveland (7123) were part of a group that visited UCF agencies last week to learn first hand of the health and welfare activities of the agencies. Here they talk with youngsters undergoing therapy at the Rehabilitation Center.

## Events Calendar

- Sept. 24** — Albuquerque Symphony Orchestra, Popejoy Hall, 8:15 p.m.
- Sept. 24-26** — Old Town Studio's Second September Festival of Short Plays, Corrales Adobe Theater, 8:30 p.m., reservations 242-4602.
- Sept. 25** — N.M. Mountain Club. Hike into Del Agua Canyon of Sandias, meet at Gulf Mart 8:30 a.m.
- Sept. 26** — UNM Chamber Orchestra, Keller Hall, 8:15 p.m.
- Sept. 29-30** — Sundown Dance and San Geronimo Day Celebrations, Taos Pueblo.
- Sept. 30-Oct. 5** — "U.S.A." University of Albuquerque Theater, 8 p.m.
- Oct. 2** — "Introduction to the Symphony Orchestra," Young Peoples Series, Albuquerque Symphony Orchestra, Popejoy Hall, 3 p.m.
- Oct. 2 & 3** — N.M. Mountain Club, moonlight hike up La Luz trail and overnight camp, call 898-5780 by Sept. 27.
- Oct. 4** — Fiesta and dances, Nambé Pueblo.
- Oct. 6** — National Ballet of Korea presents "Little Angels of Korea," Popejoy Hall.
- Oct. 7** — "The Vanishing Sea," Audubon Wildlife Film Series, Popejoy Hall, 7:30 p.m.

## Take Note

Ralph Johnson (5134) will present "Memory Effect in Semiconducting Chalcogenide Glasses" at a meeting of the 5100 Staff Seminar, Oct. 5. The seminar meets Tuesdays at 8:30 a.m. in rm. 201 of bldg. 806.

\* \* \* \*

Have you always said you would have a higher bowling average if you could just pick up your spares? Now's the time to prove it. Grab a partner (opposite sex) and join the Sandia Mixed Scotch Doubles tournament to be held at Holiday Lanes, Oct. 9-10. You take turns bowling the first ball of each frame with your partner finishing it if you don't strike. Fee is \$5 a couple for six games of bowling and an afternoon of fun. Lots of trophies and prizes. Call Mary Ward (7651) or John Nakayama (1514) for more details.



Clyde Hughes



Georgia Petitt

## Deaths

Georgia Petitt, a secretary in Secretarial Services Division 3256, died Sept. 8 after a short illness. She was 34.

She had worked at Sandia Laboratories since June 1967.

Survivors include her husband.

\* \* \* \*

Clyde Hughes, a technician in NC Machine Division 7141, died Sept. 12 after a long illness. He was 61.

He had worked at Sandia since December 1956.

Survivors include his widow, a son and a granddaughter.



REMEMBER NINE-ELEVEN — Starting Nov. 7 Albuquerque will join 150 other communities in the nation which use the universal emergency number — 911. Dial 911 for immediate emergency service from police and fire department or to call an ambulance. Former Sandian John Todd (second from right), now assistant to the City Manager, discusses the new system with city communications people.



# Soul Session Tomorrow, Fish Derby Oct. 2

Three Friday night Happy Hours, a swinging Soul Session, a Thursday night Rock Session and the Kids Fishing Derby pack the Club calendar for the next two weeks.

TONIGHT'S HAPPY HOUR will feature a new group called the Four Trends wired into the bandstand. Southern fried chicken will top the buffet menu. Happy hours start right after work on Friday evenings and run until 9 p.m. with special prices. The buffet costs \$1.25 for adults, \$1 for kids. Yolanda Adent takes over the main lounge at 9 and entertains with a sing-along until midnight.

Next Friday, Oct. 1, wildman Bob Banks (who saw the recent re-run of King Kong four times) will be back on the bandstand with the Terror Trio to make monster music until 9 p.m. The Club's famous chuckwagon roast beef will be spread for the buffet.

On Friday, Oct. 8, the Aristocrats will play for dancing and veal cutlets will be the buffet feature.

\* \* \* \*

TOMORROW NIGHT is Soul Session time. The energetic ones bugaloo and things like that while the strobe lights flash and the walls vibrate. It's something else. Max Newsom (1534), past Club president, organized the first one a couple of years ago when he was entertainment director. There's been one each month since, and no two have been the same . . . except for the basic premise: good music, free admission, happy hour prices. Obviously, you can't beat that combination. Try it tomorrow night from 8:30 to 12:30.

\* \* \* \*

SOMETHING FOR THE KIDS is the way George Kinoshita (1226), Club director in charge of the Kids Fishing Derby, describes the event. Remember last year when the south pool was filled with trout and the kids fished them out? Well, with the experience from last

year, George changed the plan some. Here's the way it will work:

On Saturday, Oct. 2, at 10 a.m. the fishing will start. Three thousand trout will be divided into both pools. There will be much more room than last year. About 80 kids at a time can fish. The limit will be four fish which the Club's kitchen staff will clean and cook on the spot. The fish fry starts at 11 a.m. and the charge will be a \$1 for adults, 75 cents for kids.

The kids can take their catch home providing they bring their own containers.

There will be a number of very large trout with tags that will bring special prizes to the kids that catch them.

The Club will provide all fishing gear and bait. Coffee, donuts and other refreshments will be available.

Fishing is free to kids 12 and under. Member parents must show membership cards for admittance. Entrance will be through the swimming pool gate.

The fishing will be good all day. Hopefully, there will be little delay. Parents are encouraged to help their kids fish. A group of clowns will entertain during the event.

The fish buffet will be served from 11 a.m. until 4 p.m. and all members, including those without kids, are invited to the fish fry.

\* \* \* \*

THE SWINGERS have requested more Soul Session type events at the Club so Herb Filusch (9213), entertainment director, has agreed to try an experiment and see how it works. A Rock Session is scheduled Thursday, Oct. 7, from 7 until 10 p.m. Rod King and The Soul Knights will be on the bandstand playing their kind of music. Happy hour prices will prevail. Admission will be free to members, 50 cents for guests. If Herb gets a crowd, he will book more of the same.

\* \* \* \*

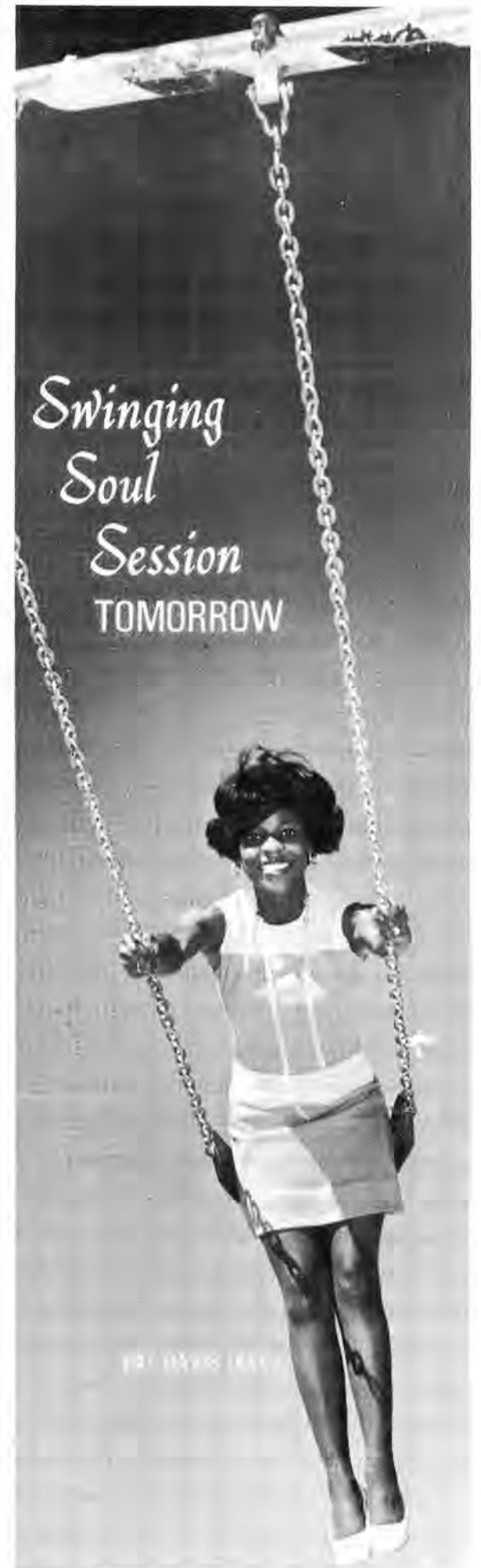
CORONADO AQUATIC CLUB, top competitive swim team in the state, has received a number of inquiries concerning membership. A meeting of parents of youngsters who wish to join the group will be held Friday, Oct. 1, at 7:30 p.m. at the Club. Julian Lovato (7615), president of the organization, will discuss the forthcoming winter training program and plans for next season.

\* \* \* \*

OTHER EVENTS for next month include the annual Oktoberfest scheduled Oct. 16, two special Happy Hours Oct. 15 and 29 with entertainment by Graciela Flores (a star entertainer at the Fiesta in Juarez), a vaudeville night Oct. 23, and another Soul Session Oct. 30 (a great night for spooks).

## Take Note

Perry Wilkes of Terradynamics Division 5627 has been promoted to the rank of Colonel in the Air Force Reserve. He is assigned to the Air Force Weapons Lab, KAFB. Perry has been with Sandia Laboratories for 13 years.



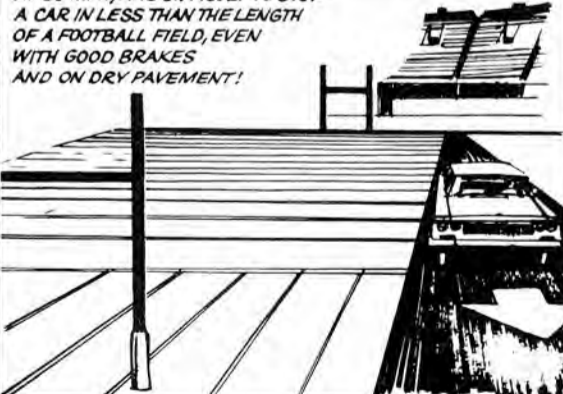
Swinging  
Soul  
Session  
TOMORROW


## Promotions

Louis D. Archuleta (7632) to Micro Equipment Operator  
John F. Ayala (7632) to Reprographics Composer  
Sandra Barber (5620) to Secretary  
William D. Bonivert (8271) to Technician  
Peggy Lee Box (3110) to Secretary  
Margaret B. Cardwell (4614) to Stock Record Clerk  
Felix E. Castillo (5411) to Computer Facilities Clerk  
Adelico C. Cordova (4515) to Janitor  
Sylvia R. Gonzales (4338) to Teletype Operator  
Lina J. Harbo (8213) to Teller  
Nettie L. Jones (7632) to Reprographics Composer  
Marybelle Manzanares (3341) to Administrative Clerk  
B. Jeannine McCrory (7633) to Service Clerk  
Jo Ann Oswald (1430) to Secretary  
M. Esther Perea (1410) to Secretary  
Glenda A. Plake (8342) to Secretarial Typist  
Lillian V. Podvin (7412) to Record Clerk  
Jimmie L. Robinson (7631) to Reproduction Service Clerk  
J. Berman Sanchez (4553) to Scheduling Clerk  
Russell F. Smith (3148) to Mail Clerk  
Judith L. Tripp (7633) to Service Clerk  
Patricia A. Ximenes (4154) to Typist Clerk


### THE SAFE DRIVER

AT 60 MPH, IT IS DIFFICULT TO STOP A CAR IN LESS THAN THE LENGTH OF A FOOTBALL FIELD, EVEN WITH GOOD BRAKES AND ON DRY PAVEMENT!





THE SAFE DRIVER ALWAYS MAINTAINS A SAFE BRAKING DISTANCE BETWEEN HIMSELF AND THE CAR AHEAD... AT LEAST ONE CAR LENGTH FOR EACH 10 MPH!



DON'T BRAKE WHEN A TIRE BLOWS! LET UP ON THE ACCELERATOR, KEEP THE CAR ON A STRAIGHT PATH, AND BRAKE GRADUALLY WHEN THE CAR IS UNDER CONTROL!