



Robert Kraay

## Executive VP Slated For Labs

President Hornbeck this week announced the establishment of a new top level post within Sandia, that of Executive Vice President. The position will be filled on July 1 by Robert Kraay, now general manager of WE's Kansas City Works. The plant manufactures electronic components and general equipment.

Mr. Kraay, an EE graduate of Purdue in 1944, joined Western Electric in 1946 after wartime service in the Navy. After a number of assignments at Hawthorne, he was nominated by WE for a Sloan fellowship at MIT and, in 1957, received his MS degree in industrial management at that school.

Since then, Mr. Kraay has filled a number of positions in New York and elsewhere, including assignments as manager of WE's Laureldale Plant in 1964, and general manager-Central Region, Service Division-West in 1965. He assumed his present position in 1968.

He is a member of IEEE, Tau Beta Pi, and Eta Kappa Nu, and holds five patents on manufacturing devices. While living in Kansas City, Mr. Kraay has been active in community affairs and has worked in an executive capacity with charitable, civic, academic, and theatre groups.

Mr. Kraay is married, and he and his wife Pearl have two sons.

# LAB NEWS

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MAY 7, 1971

SANDIA LABORATORIES • ALBUQUERQUE NM • LIVERMORE CALIF • TONOPAH NEV

## Using Penetrometers

### Ice Measurement Test Successful

Sandia Laboratories scientists have returned from the Arctic after a highly successful series of ice penetrometer tests. The Coast Guard sponsored tests were held at Thule, Greenland, and Alert, Canada, in mid-April and involved dropping the dart-like instrumented projectiles (Sandia Ice Penetrometers or SIPs) into various types of sea and freshwater ice. Data radioed to the drop aircraft from the SIP reveals ice thickness as well as whether it has formed in one year (annual ice) or over a period of several years (pack ice).

Twenty-three instrumented penetrometers were dropped, of which 21 provided the expected data. Ice thicknesses ranged from one to six feet. Initial analysis of data shows close correlation with measurements of actual ice samples core-drilled at the impact sites.

Eleven penetrometers were dropped in Thule Bay, seven near Alert, and five at intermediate points.

The 11-man Sandia team reported good weather throughout the tests, with the lowest temperatures experienced some 10 degrees below zero F. On the ice, transportation was by two-man snowmobiles, towing supply toboggans. Eskimo dogsled teams, available at Thule, were not needed.

Returning scientists report that operations were relatively uneventful, though one experiment was momentarily delayed as an Eskimo dog team crossed the target area. Most were surprised at the abundance of animal life. Ravens were in evidence, and researchers noted wolf, fox and hare tracks covering a target area on an isolated ice floe.

Sandia now considers the initial developmental phase of the SIP program complete. The Coast Guard will begin using the devices as an operational tool in its regular research program during the next fiscal year. It is expected that data collected in this manner will be of considerable use to navigation — particularly since it adds a third dimension, depth, to the two-dimensional ice mapping now achieved through the use of side-looking radar systems.



DRILLING a hole in the ice was necessary to get core sample to compare with data obtained by penetrometer. Data thus remotely obtained proved to have high accuracy.

## Take Stock In America

—most  
Sandians do

See a few of them  
on page 3 . . .

## More Hospitals Using 'Clean Room' Idea

Infection can be a killer in a hospital, and one promising way to prevent infection is through use of laminar flow cleanrooms, where nearly all contaminants are removed from the air.

Willis Whitfield (1742), inventor of the laminar flow concept, reports several developments showing increased medical application of laminar flow.

The University of Texas M.D. Anderson Hospital and Tumor Institute in Houston plans to add three "cleanroom-type" rooms for use by leukemia patients. The hospital already has two such rooms which have given

patients with acute leukemia increased protection against infectious diseases.

Willis has also been informed of continued interest in the installation of laminar air-flow facilities in hospital operating rooms. Presbyterian Hospital in Albuquerque now has two operating rooms so equipped, and Bataan Memorial Hospital has two operating rooms of this type under construction; these will be additions to the hospital's trial operating cleanroom in use since 1966.

Laminar air flow rooms are also being used at the Baltimore Cancer Research Center, the Navy Hospital in Charleston

(obstetrical delivery rooms), and Hollywood Presbyterian Hospital. Surgeons at the latter hospital used a laminar air flow operating room to perform complicated hip replacement surgery.

Because so much tissue must be exposed in hip surgery of this type, laminar air flow has proven successful in holding down danger of infection. However, as inventor Whitfield points out, "Laminar air flow does not produce clean or sterile conditions, but when those conditions already exist, it does provide protection from airborne contamination."



# Credit Union Reporter

by Joe Miller (4122)  
Credit Union Secretary

January. If you made no withdrawals, your account would look like this:

	Share Balance	Share Months
January	\$25	5
February	50	10
March	75	15
		30

Your dividend would be  $30 \times .025$  equals \$0.75.

\* \* \* \*

## How your dividends are figured

Now that the Credit Union has started paying dividends on a quarterly basis, this is a good time to review dividend paying procedures.

First of all, why do we go through this dividend business anyway? The IRS calls it "interest" so why not just pay a flat rate of interest?

The reason is that Credit Union earnings fluctuate from year to year, so that only after earnings are available is it possible to determine the amount to be paid to members. This makes it a "dividend" instead of simple interest paid on savings.

Because it is a dividend, payments are based on the number of full shares owned (at \$5/share). In keeping with the dividend concept, federal regulations require that shares must be in the Credit Union at the end of the quarterly dividend period in order to earn a dividend. For example, shares withdrawn in March lose dividends earned during January and February. This provision serves one good purpose by encouraging members to think twice before withdrawing savings.

A final rule is that Credit Union dividends are computed on the basis of "share months." A share month is defined as one \$5 share on deposit in the Credit Union for a period of one month, but note that deposits made by the 10th of any month are considered to have been in the Credit Union for that full month. When a dividend is declared at an annual rate of 6% (which we expect to continue paying), each share month earns a dividend of 2-1/2 cents —  $\$5 \times 6\% \times 1/12$  equals .025. To figure your dividend, compute your share months and then multiply by .025.

Example: Assume you began depositing \$25 per month in the Credit Union in

## Unit Pricing—Hope For the Hapless Shopper

The "Economy" size box of soap contains 67-1/2 ounces and costs \$1.32 while the "Family" size box, same soap, containing 43 ounces, costs 77 cents. So which is the better buy? You don't happen to have your slide rule with you at the supermarket, and long division was never your strong suit.

Don't feel inept. A group of college-educated housewives were asked to buy the package of 14 everyday items offering the largest amount for the lowest price. They succeeded in only about half their purchases.

The answer to this difficulty is "unit pricing," which a number of stores in the East have already voluntarily adopted. All items sold from their shelves are labeled not only with the package price but also with the price per pound, pint, quart, or 100 count. The 12 ounce can of beans selling for 13 cents carries an additional label to the effect that the per quart price is 35 cents, and shoppers can thus make accurate price comparisons. By the end of last year, unit pricing had spread to about 35 supermarket chains. "In two years," predicts U.S. Representative Benjamin Rosenthal, a sponsor of unit pricing legislation, "every chain in the U.S. will fall in line."

## Local Scientist to Head Western Nuclear Board

Sandia scientist Bruce Van Domelen (2345) was elected chairman during the second annual meeting of the Western Interstate Nuclear Board (WINB), held at the Western White House April 19-22.

WINB is made up of representatives appointed by the governors of the 11 states which signed the Western Interstate Nuclear Compact. This compact was designed to provide member states with an independent capacity to assess nuclear technology.

During the recent meeting, board members reviewed current and projected plans for nuclear power plant siting, Plowshare projects, radiological monitoring and radioactive waste management, as well as new developments in the use of atomic energy for cancer therapy, agriculture, and other peaceful applications. Virtually all board members reported recent or proposed legislative actions in their state dealing with thermal power plant siting guidelines and other environmental protection standards.

Bruce, in his capacity as New Mexico's representative, reported that the Meson facility at Los Alamos will be used to produce some relatively rare isotopes which will be investigated by the University of New Mexico Medical School for diagnostic use and for treatments. The accelerator beam of positive and negative mu mesons will also be used for the treatment and diagnosis of cancer.

In accepting the position of chairman, Bruce noted that in less than five years a proposal by the Western Governors' Conference for a regional nuclear compact has moved from the conceptual stage through ratification by 11 states, organization of a headquarters staff, and a start on initial programs.

"Current and newly-created projects to be undertaken by WINB in the next fiscal year," he says, "will provide impetus for progressive planning and actions by the western states in fostering the orderly and beneficial uses of atomic energy."

## Development Shops Tours, Briefings Held for Draftsmen and Designers

Nearly 300 designers, draftsmen, and drafting support people have seen a slide/tape presentation on facilities and processes of Sandia's development shops and are now ready to start concentrated tours within areas of particular relevance.

John Coleman of Engineering Information Systems Division 7623, who is in charge of the program, explains, "The purpose of this training program is to help our people get better acquainted with shop crafts and to discuss some of the problems encountered and their solutions."

During April there were 14 showings of the hour-long slide/tape presentation. Commentary for each area covered was given by the concerned division supervisor: metal forming, Al Hall (4232); forming of non-metals, Pat Conlon (4222); material removing machining, Bill Peay (4251); adding material, Dave Watt (4221); and metrology, Roy Parker (4213). After each showing, attendees indicated which of 15 shops they needed to tour. The shop tours will start this month.

Art Eiffert, manager of Mechanical Department 4250, is handling the arrangements for 4200.

## Vela Program Moves to USAF

*A program Sandia Laboratories has long been associated with — VELA Satellite — is being transferred from Advanced Research Projects Agency (ARPA) to the Air Force. Following is TWX received by President Hornbeck on transfer of responsibility.*

FROM ARPA SIGNED LUKASIK

FOR CSAF (SECRETARY) SAMSO (COMMANDER) AEC/DMA (ASST GENERAL MGR) LASL (DIRECTOR) LRL (DIRECTOR) SANDIA CORP (PRESIDENT) WITH THE TRANSFER OF ARPA'S EXECUTIVE RESPONSIBILITY FOR THE VELA SATELLITE PROGRAM TO THE DEPARTMENT OF THE AIR FORCE ON 31 MAR 71, I WANT TO EXPRESS TO ALL MEMBERS OF THE JOINT AEC/DOD VELA DEVELOPMENT TEAM OUR SINCERE APPRECIATION FOR THE SPLENDID COOPERATION THEY HAVE GIVEN ARPA DURING THE ENTIRE PROGRAM. THROUGHOUT A VERY PRODUCTIVE DEVELOPMENT HISTORY SPANNING SIX SUCCESSFUL LAUNCHES, MANY INDIVIDUALS AND GROUPS HAVE, IN TURN, MADE SIGNIFICANT CONTRIBUTIONS THAT PROVIDED EVER INCREASING IMPROVEMENTS IN PROJECTED SYSTEM CAPABILITY AND IN DEMONSTRATED PERFORMANCE. WE BELIEVE WE HAVE NOW MET OUR TECHNICAL OBJECTIVES. THANK YOU VERY MUCH. PLEASE ACCEPT OUR BEST WISHES FOR YOUR CONTINUED SUCCESS. BT

## LAB NEWS

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**Drive Starts Monday**

# Taking Stock In America

A lot of Sandians are suffering from withdrawal symptoms.

How come?

You're making more money than you ever have.

But every time you plan on putting money into your savings, you end up withdrawing some. Maybe you're buying too many little things you don't really need. Little here, little there. After awhile it adds up.

You know, that's just the theory

behind the Payroll Savings Plan. By setting a little aside from each paycheck, you don't really miss the money, and it doesn't take long before you've got a nest egg that's worth something.

The Payroll Savings Plan. A great way to save a little here, a little there and end up with a bankroll. Take a look at the satisfied customers on this page who work with you. They all know that a minus on your paycheck can be a plus in your future.



**GLENN FOWLER, Vice President (9000)**

*"'Taking Stock in America' is a good way to look at your Bond purchases. When you buy Bonds you're building a better future for yourself and your country."*

**MAXINE STEPHENSON,**

**President  
Office &  
Professional  
Employees  
International**

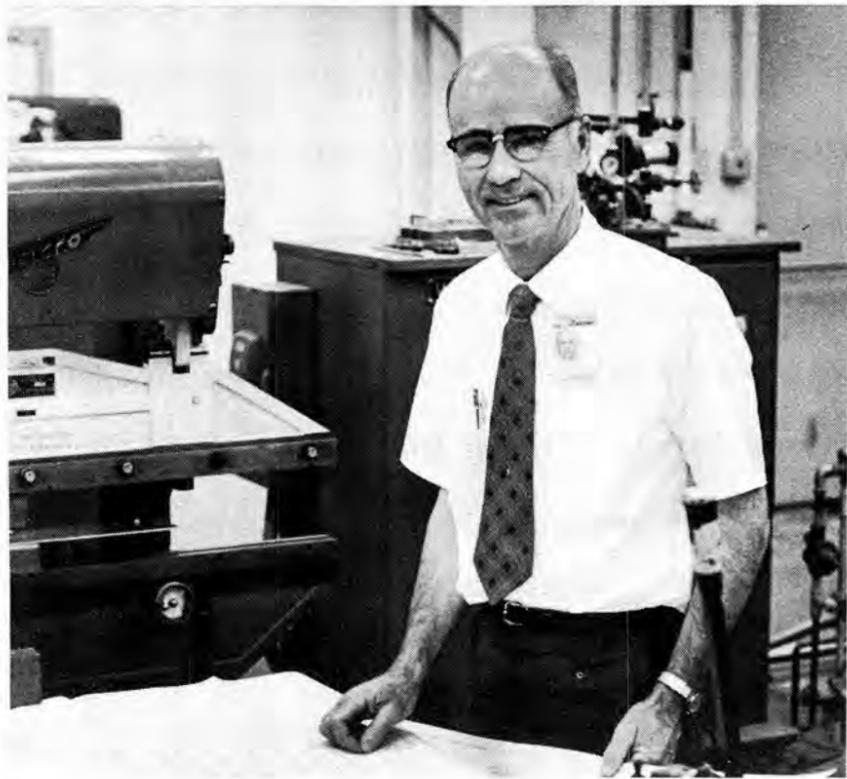
*"Most Sandians I know already take Bonds — it's like money in the bank."*



**MERLE ALEXANDER,**

**President  
Metal Trades  
Council**

*"Savings Bonds will be part of my future retirement income, and being able to defer the tax on their increased value until that time is a big advantage. Through payroll savings, buying the Bonds is simple."*



**BOB BYRD, President  
International Guards Union**

*"Aside from the advantages we realize personally from the purchase of Bonds, there's another good reason — patriotism. You help your country and yourself when you enroll in payroll savings for Bonds."*



**NADINE ORTIZ (3523)**

*"As a saver, I'm the last of the big spenders. But buying Bonds through payroll savings makes saving easy."*



**GENE SHIPLEY (5200)**

*"A good reason for buying Bonds is that you're free to choose not to."*



**MAXINE BOWERS (8235)**

*"Buying Savings Bonds is an easy way to get the habit of saving. The interest rate is good and you can defer the income tax until later when they are cashed, during a low income period."*

## Take Note



Dennis Cordova

An award for "Outstanding Community Activities" was recently presented to Dennis Cordova (4136) from Toastmasters International — District 23, which includes all of the state of New Mexico and El Paso, Texas. The plaque was presented to Dennis through his local club — Sandia Toastmasters No. 765.

Dennis' community activities are outstanding. He is executive secretary of the Invitational High School Basketball Tournament Committee, University of Albuquerque; chairman of the Administrative Committee for the Albuquerque Economic Opportunity Board; secretary of the Referee's Association (Albuquerque high school football and basketball); coordinator for umpires, Little League Baseball; clinic adviser, Little League Football; and is active in his political party.

Dennis has been with the Laboratories for 20 years.

\* \* \* \*

Peter Lysne (5132) will present "A Theory of Polarization of Nonlinear Piezoelectric Materials by Shock Waves — An Application to X-Cut Quartz Gauges" at the 5100 staff seminar Tuesday, May 11. On May 18 George Laramore (5151) will discuss "Elastic and Inelastic Low Energy Electron Diffraction (LEED) from Solids."

The seminar meets at 8:30 a.m. on Tuesday mornings in rm. 201, bldg. 806.

\* \* \* \*

Norm Brown (2341), president of the Albuquerque Gem and Mineral Club, reports that the Club is having its second annual show on May 14, 15 and 16 at the Industrial Building on the State Fair Grounds. The show features mineral and gem exhibits, demonstrations of rock cutting, and competitive exhibits. Admission is 50 cents and kids under 12 get in for free when accompanied by an adult.

\* \* \* \*

The Albuquerque chapter of the National Secretaries Association named Helen Walsh (5300/5500) "Secretary of the Year" during the group's annual workshop April 24.

Helen has been with Sandia 10 years. During that time she also completed the requirements and passed the examination to become a Certified Professional Secretary.

More than 500 Albuquerque secretaries attended the workshop and luncheon.

\* \* \* \*

"Best Paper Award, 1971" has been presented to Lynn Rigby (1644) by officials of the 20th annual conference of the Textile and Needle Trades Division of the American Society for Quality Control.

Lynn's paper, "The Nature of Human Error," was presented by Bob Webster (also 1644) during a two-day meeting in Charlotte, N.C.

The paper outlined what human error is, why it occurs, how frequently it happens, why



COMPLETE APPRENTICESHIP PROGRAM—Bob Hopper (4500) presents state certificates of completion to (from left) Steve Zdunek, Garry Tolbert and (far right) Willard Randall. The men completed requirements of Sandia's Plant Technician apprenticeship program.

## Recreation News

### FUN & GAMES

The Sandia Lab All-Star bowling team took second place in the annual inter-base tournament at Kirtland Lanes on April 17-18. Representing Sandia was Roy Dell (7653), Jim Hinson (3522), Bob James (9428), Ken Jones (7615), Nick Kasnic (4232) and Herb Sisson (7283). Kirtland AFB won the team competition. Herb Sisson won the all-events title with a 1739 total for nine games.

\* \* \* \*

The 3200 Org. girl's volleyball team finished their C League season as 1971 champs. Coached by Dianna Perry (3232) and managed by Dora Montoya (3256), the girls were undefeated in season play against the other three teams in the league.

In the A League, Team 3 under Wendland Beezhold (5112) defeated Team 4 for the League championship.

— Norma

it is important, and how it can be predicted, measured, and reduced. "The main reason that human error is troublesome," Lynn says, "is that we know little about it and apply so little of that knowledge to the problem."

The award followed a review of some 30 published conference papers by the 12 judges.

\* \* \* \*

Robert Lefever, supervisor of Materials Division 5154, has been named to the executive committee of a new national scientific society, the American Organization for Crystal Growth.

The executive committee is an outgrowth of an ad hoc committee formed in 1966 after the first national meeting on crystal growth. The ad hoc group of 24 scientists was responsible for supporting a second national meeting in 1969, and in both 1970 and 1971 arranged for crystal growth to be one of the fields to be included in the program of the Gordon Research Conferences.

## Leaving Town?—Need Someone To Watch Your Property?

From July 6 to July 30 Sandia Laboratories will host a seminar on the SECEDE weapons effects program. Participants from around the country comprise a diverse group — military, civilian employees of DOD, university staff people, and commercial contractors.

Since the seminar is several weeks in length, many of those attending wish to bring their families — if suitable housing can be found. Vacationing Sandians who would like to rent their houses to seminar participants are invited to contact Lyle Wetherholt, Department 9230, ext. 4-3563. All rental arrangements will be between the Sandian and the seminar participant, with Lyle serving only as the point of contact.

## Retiring



EMELIA VIGIL (7532)

## Vista New Mexico



VICENTE XIMENES

*Profile: Vicente Ximenes, Commissioner, U.S. Equal Employment Opportunity Commission*

*By Jose Chacon (formerly of Sandia) and Felix Padilla (4511)*

As Commissioner Vicente Ximenes completes his term on the EEO Commission in Washington, it is clear that he also completes a great deal of work in the movement for recognition of people who are the Mexican Americans. Nor have Mexican Americans been the Commissioner's only concern. He has fought equally for the rights of Puerto Ricans, women, American Indians, Orientals, and Blacks. It is ironic that the man who has been at the "point of the lance" in the movement for recognition of the Spanish-speaking should have a name that even the Spanish have problems spelling, and most people cannot pronounce ("he-mén-es"). But few names have become better known in such a short period of time.

Commissioner X, as he is known, was born in 1919 in Floresville, Texas, the fifth of seven children. Following high school and the University of Texas, Vicente enlisted in the Army Air Corps in WW II. He completed 50 missions as lead bombardier in the North African campaign and was awarded the Distinguished Flying Cross and Air Medal with three oak leaf clusters.

During the war, he married the former Maria Castillo of San Antonio. They now have four children. In 1947, Major Ximenes retired for medical reasons after seven years of military service. After his return to civilian life, he gained BS and MS degrees in economics from UNM.

For the next ten years, Vicente was a research economist at UNM and taught undergraduate economics. He also worked to organize the sanitation workers in the city and represented their cause before the City Commission. Ultimately, this activity led to the organization of the Municipal Employees Union in Albuquerque, one of the first such unions to win recognition in the country. Even today, most sanitation workers in the city

know Vicente on a first-name basis.

At that time, the University administration, did not relish the thought that their janitorial force might be Vicente's next organizational objective. Nor was it in vogue then for University professors to deal with the problems of the poor nor to speak out strongly on issues that affected them. In a terse meeting with the UNM president, Vicente told him of his decision to accept an offer with the Agency for International Development in Ecuador. "I think I resigned one second before I was fired," the Commissioner said of the meeting later.

Following a number of governmental assignments, President Johnson in 1967 named Vicente a member of the EEO Commission and, one month later, Chairman of the Inter-Agency Committee on Mexican American Affairs. His first major task was to put together the National Conference on Mexican American Affairs, held in El Paso in late '67 and attended by many national leaders, including the President and Vice President. Recommendations arising from this Conference are now reflected in governmental policy.

In July 1968, the Inter-Agency Committee helped to sponsor the first Government-Industry Conference on employment problems of Mexican Americans and American Indians. Measurable progress has since been made. Other EEOC hearings followed, in Los Angeles and Houston, and Commissioner Ximenes soon became known across the Nation for his tenacious efforts in behalf of minority peoples.

These are some of the more public efforts of Commissioner Ximenes to help disadvantaged Mexican Americans. Less noticed, perhaps, some 4200 Spanish-speaking Americans were added to the federal payroll during his tenure. He has also been actively involved in the Model Cities program and in numerous other actions affecting the Spanish-speaking within the federal government.

Plans for the future for Commissioner Ximenes are uncertain. But it seems likely he will continue in the forefront of the movement to improve the lot of the Mexican American.

## New Figures Released on Rulison Well

The quality of gas from the Project Rulison well is improving and the amount of radioactivity in the gas is decreasing, according to reports on chemical and radiochemical analyses of the gas recently completed. The very small concentration of radioactivity in off-site areas resulting from flaring (burning) the gas also has been further reduced.

The gas is from a chimney of broken rock formed by a 40-kiloton nuclear detonation on Sept. 10, 1969, about 8400 feet below the surface at the Project Rulison site near Grand Valley, Colo. Sandia Laboratories performed ground motion studies relating to the detonation. Gas from the well is being flared at various rates and for various lengths of time to determine the effective chimney and fracture volume, the production capability of the well, and the long-term production characteristics of the gas reservoir.

Gas samples are taken from the wellhead periodically during the flaring operations and analyzed. Chemical analysis of the gas is made to determine its quality. The chemical makeup determines how much heat will be produced when the gas is burned. Natural gas



FIFTEEN YEARS AGO Gene Lucero (7532) designed this cable tester. It's still in daily use.

## Designer and Cable Tester Both Assets to Company

Technological advances tend to cause a short life span for mechanical or electronic equipment, but Sandia has one cable tester that is still an asset after 15 years of operation.

Gene Lucero (7532) was a lead man in an inspection division when he designed and built the cable tester, which was then used to perform continuity tests and to check for high voltage breakdowns within cables having a connector pin configuration.

The tester is of simple design, using special adapter wires with different types of pins that mate with each end of the cable being tested. One end of the adapter is plugged into the tester. A manual switching system allows selection of the number of positions to be tested.

Gene's tester is still in frequent use in Inspection Calibration Division 4213 for check out of cables fabricated at Sandia (mainly by Electrospecialties Section 4233-1).

Gene, now a Staff Assistant, is responsible for testing semiconductor devices in Semiconductor and Tube Lab Section 7532-1.

containing a large amount of carbon dioxide, for example, will not produce as much heat as gas low in carbon dioxide.

The amount of carbon dioxide is gradually decreasing as the gas is flared. The level is expected to be about 10 percent when the production test flaring program is completed. The amounts of other chemical components in the gas are typical of the natural gas in the Rulison field.

Radiochemical analysis of the gas shows that radioactivity is decreasing as fresh gas flows into the chimney to replace that being flared. Radioactivity levels in the gas are expected to be considerably less at the end of the third phase of the production test flaring operation which is scheduled to begin in February and continue until spring.

The radioisotopes of major importance are tritium and krypton. The gas now contains 104 picocuries per cubic centimeter of gas of both tritium (hydrogen-3) and krypton-85. The gas contained approximately 175 picocuries per cubic centimeter of gas of each of these isotopes when the well was re-entered on Aug. 1, 1970.

## Do Your Part— Ride a Bike!

Several months ago a *LAB NEWS* article presented information on the distances Sandia/Livermore employees travel to and from work. At that time, questions were raised concerning the number of cars with only a driver, and how much smog was produced.

Here are some answers which resulted from a recent survey:

Persons in Car	Number of Cars	Percent
1	579	82.6
2	103	14.7
3	9	1.3
4	8	1.1
5	2	.3

The points of origin of the 700-plus cars counted are undeterminable, so the total quantity of emissions for Sandia drivers cannot be computed. However, the average car in California produced these emissions during 1970:

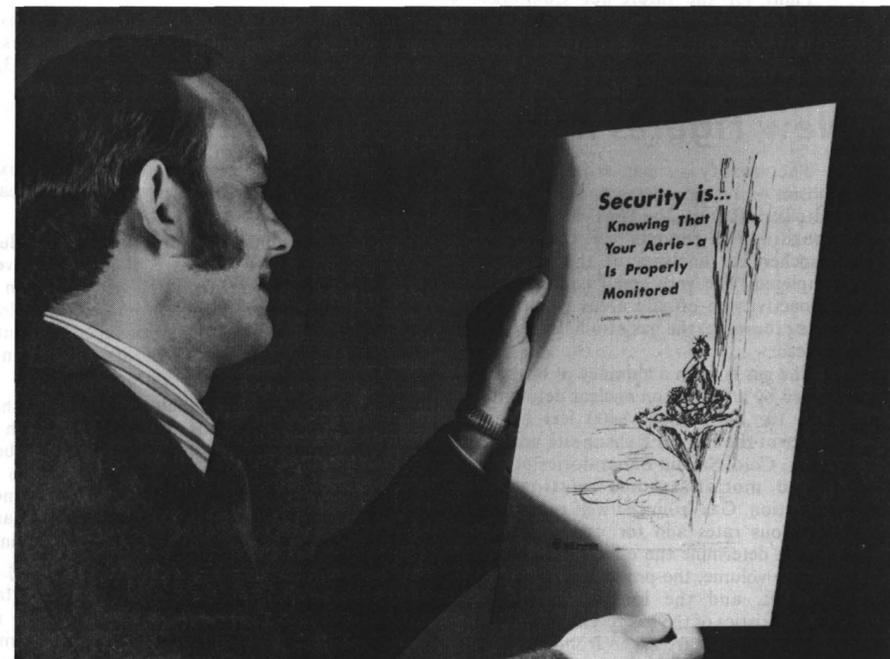
11.7 grams/mile hydrocarbons  
60.5 grams/mile carbon monoxide  
4.9 grams/mile nitrogen oxide.

Perhaps you might like to make the computation for your car, if you drive to work.

It is projected that average emissions will dip slightly in 1971 due to the tightening of California standards on new cars. The 1971 estimates are:

10.3 grams/mile hydrocarbons  
54.9 grams/mile carbon monoxide  
4.9 grams/mile nitrogen oxide.

Devices to control hydrocarbons and carbon monoxide have been required on cars in California since 1965. However, devices to control nitrogen oxide emissions were first required on 1971 model cars.



SECURITY CONTEST WINNER—"Security is Knowing that Your Aerie-a is Properly Monitored" took first place in the poster contest. Submitted by Paul Heppner (8172), the winning caption and a credit line appears on the May security poster-of-the-month. Paul receives a personal copy of the poster and is eligible for the grand prize. Contest is repeated each month.

## Antique Ravioli Machine? Going, Going, Gone!

From May 21 to May 30 you can help raise funds for KQED, the Bay Area's educational, non-commercial, member supported television station. Broadcasting from the Cow Palace in San Francisco, the Channel 9 KQED Auction will be on-the-air for 82 hours, and you can bid on fabulous and zany items — a 1967 Excalibur car, Venetian glass fireplace, 1971 Datsun 1200 sedan, pets, gourmet goodies or an antique ravioli machine.

Fine works of art — to be sold Sunday, May 23 — and antiques may be previewed at the Cow Palace (Exhibit Bldg. 2, Gate 5) from 12 noon to 6 p.m. daily, May 14 to May 19. Ben Aikin of Technical Art Section 8231-2 is one of several well-known artists who donated paintings for the auction.

The 17th Annual KQED Auction involves 1500 volunteers from 10 Bay Area counties. As an educational station, Channel 9 brings programs to northern California such as "Sesame Street," "What's New," and original presentations from various cultural groups, as well as in-depth news reports.

## Sympathy

To Al Elsea (8273) for the death of his mother-in-law, in Livermore, March 5.

To Bob Frost (8164) for the death of his mother-in-law in Livermore, April 12.

To Martin Gordon (8256) for the death of his mother-in-law in Los Angeles, April 10.

To Lorena Schneider (8235) for the death of her mother in Buffalo, April 19.

To Sheridan (8333) and Mary Johnston (8212) for the death of his father in Spring Valley, N.Y., April 19.

# LIVERMORE NEWS

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## LESSON, a Livermore Ethnic Studies Program

"Promoting understanding between members of minority groups and other citizens in Livermore seemed an ideal objective for my spare time," says Mel LaGasca (8121). "And being a mixture of nationalities myself — my father Filipino, my mother Irish and Black — I felt I needed a more basic understanding of how different people should get along together."

Mel is chairman of LESSON (Livermore Ethnic Studies Serve Our Needs), a group formed to bring ethnic studies to Livermore children so that they might appreciate the talents and contributions of all Americans. In operation, the program helps the school

teacher in the preparation and presentation of material relating to specific ethnic groups.

Introduced last fall as a pilot program, LESSON took much research and coordination. First tryout was a fifth grade class at the Livermore Fifth Street Elementary School.

As chairman, Mel worked with five group leaders and some 20 volunteers to round up source materials on the cultures of American Indians, Chinese, Filipinos, Japanese, Mexican-Americans, and Blacks. Meanwhile, curriculum and schedules were established for approximately 30 one-hour sessions, one-per-week, with time allotted for questions and answers.

A unique feature of LESSON is the classroom presentation by the minority individual of the historical events and achievements of his group. The presentations are accompanied by films and historical maps, photographs, artifacts, and other related items. Cost of materials is covered by Title I federal funds.

Background for Mel's presentation on Filipino culture was gained from the Filipino Cultural and Educational Society in Stockton, where Mel once lived. It has one of the largest Filipino communities in California and many persons in the community were born and raised in the Philippines. From these Mel learned much about life in the various islands and the distinctive culture of the Filipino. He also did research at the University of the Pacific.

Mel comments that reaction to LESSON has been encouraging. "One parent reported that his son who rarely mentioned school was 'turned on' by the LESSON program and discussed it at length.

"Next year it appears we'll again be working with the Fifth Street School and, possibly, with other elementary schools on a request basis. We would eventually like to work with high school students. Our aim is to have knowledgeable volunteers — experts in specific cultures — available according to school needs."

Other Sandians making LESSON presentations include Su Chui (8352), Leo Gutierrez (8100), Roy Lee (8325), Alyce Loveless (8272) and Joan Nakano (8353).

Mel says that additional volunteers for the coming year's program are most welcome. If interested, contact him at ext. 2842.

## Congratulations

Mr. and Mrs. Wil Jorgenson (8122), a son, Eric Theodore, March 13.

Mr. and Mrs. Hovey Corbin (7613), a son, Hovey D., Jr., April 17.

Mr. and Mrs. Dan Morse (8331), a son, Jason Daniel, April 11.

Mr. and Mrs. John Tootle (8124), a son, Josef John, April 24.

Dorothy Clark (8235) and George Andrews (LRL), married in Visalia, Calif., May 1.



Sandia Laboratories Board of Directors met in late April at Sandia Livermore. Seated, from left, are J.B. Fisk, H. Mehlhouse, and President Hornbeck. Standing, from left, are P.E. Hogin, J.P. Molnar (a former president of Sandia), J.T. West, D.W. Thomas, and A.P. Clow. The Directors come from both Western Electric and Bell Telephone Laboratories.

## Take Note

Jim Shelby of Physical Research Division 8311 presented a technical paper at the annual American Ceramic Society meeting held April 26-28 in Chicago. Title of the paper was "Helium Diffusion in Vitreous Silica."

\* \* \* \*

Sandia/Livermore's team was undefeated in the LRL Recreation Association (RLRA) Basketball League, taking first place trophies in Division II. Four LRL teams and the Sandia team played approximately 15 games on a weekly basis beginning last November. Sandia team members were: captain Jerry Williams (8322), Hugh Coleman (8351), Dave Dean (8343), Dan Hartley (8351), John Liebenberg (8184), Mike Nicholson (8176), Bill Ormond (8217), Bill Peila (8183), Tim Sage (8274), and Pete Witze (8176).

\* \* \* \*

Dan Tichenor (8121), Mel LaGasca (8121-1), and Al Reichmuth (8273) were first, second, and third place trophy winners, respectively, in the 3rd Annual Juan Doyen Memorial Chess Tournament at Sandia Laboratories Livermore. Ray Ng (8352) won the tournament the two previous years.

The noon-time tourney is held each year in memory of Juan Doyen, a former draftsman in the Electronic Design Drafting Section and one of the early transferees from Albuquerque. He died shortly after establishing the tourney in 1968.

This year about 16 employees participated over a five-month period. Following standard chess rules, the tourney was played on the basis of straight double elimination.

\* \* \* \*

"Kinetics of Vaporization of Zinc Single Crystals," which appeared in a recent issue of

the *Journal of Chemical Physics*, was written by Ray Mar of Materials Division 8311.

\* \* \* \*

Rudy Johnson of Metallurgy Division 8312 was the author of a technical article entitled, "Electroforming Mates Ultra-Precision Punch and Die," which appeared in the March issue of *MODERN MACHINE SHOP* magazine.

## Future of San Francisco Bay Colloquium Subject May 14

The future of San Francisco Bay will be the subject of a colloquium to be held at Sandia Laboratories Livermore, Friday, May 14.

Joseph Bodovitz, executive director of the San Francisco Bay Conservation and Development Commission, will discuss plans for the Bay proposed to the California Legislature. The Commission was established after concern was voiced by the public over the dangers of piecemeal filling of the Bay.

Graduating from Northwestern University in 1951, Mr. Bodovitz was a Naval officer from 1952 to 1955. He received his Master's degree in journalism from Columbia University in 1956, and became a reporter for the *SAN FRANCISCO EXAMINER* from 1956 until 1962 specializing in city and regional planning, urban renewal and local government. From 1962 to 1965, he was associate executive director of the San Francisco Planning and Urban Renewal Association and has been a member of the Development Commission since 1965.

Tickets are required for admission. Marlin Pound (8236) is host.

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# Speakers

Sandia papers presented at the American Physical Society (solid state physics) meeting, March 29-April 1, Cleveland.

Physical Research Department 5130: D. Emin, "A Variational Solution of the Polaron Problem"; C.H. Seager, "Electronic Hall Mobility in the Alkaline Earth Fluorides"; L.C. Bartel, "Limits on the Stoner Enhancement Factor in Transition Metal Alloys from Pressure Experiments"; W.R. Abel, "Effect of Pressure on the Dielectric Constant of  $\text{KTaO}_3$ "; G.A. Samara, "Recent High Pressure Studies of Ferroelectric Properties."

Radiation Effects in Solids Research Department 5110: G.W. Arnold, F.L. Vook, and W. Beezhold, "Depth Distribution of Electronic Energy Losses of Low-Energy Protons in Silver Phosphate Glass"; E.D. Jones, "Laser Produced Impulse in Solids"; N.C. Anderholm, "Pressure Generation by Absorption of Laser Radiation by Carbon Particles in a Lucite Matrix."

Solid-State Research Department 5150: J.E. Schirber, "Electronic Structure of Metals Using the Pressure Dependence of the dHva Effect"; A.C.

Switendick, "Electron States of Ordered Copper-Nickel Alloys"; N.S. Gillis, "Temperature Dependent Frequency Spectrum of a Model Paraelectric"; S.M. Myers and A. Narath, "Transient NMR of  $^{31}\text{P}$  in the Rare-Earth Phosphides"; J.P. Van Dyke, "Velocity Matrix Elements Calculated in the OPW Representation"; R.K. Quinn and R.T. Johnson, "Thermal, Structural, and Electrical Properties of As-Te-I Glasses"; H.T. Weaver, "Hydrogen Diffusion in Yttrium Trihydride"; P.S. Peercy, "Raman Scattering from Mobile Electrons in  $\text{CdS}$ "; G.E. Pike, "Tunneling in n-n Germanium Heterojunctions"; A.G. Beattie, "Acoustic Emission in InTi Alloy"; R.R. Bartkowski and J.A. Tunheim (South Dakota State University), "Interstitial Site Position in  $\text{SnO}_2$  by EPR of  $\text{Ni}^{+3}$ ."

Also: J.N. Sweet (2633), "Properties of Sn-I-Sn Josephson Junctions with External Resistive Shunts"; W.B. Gauster (5225), "Direct Determination of Low-Temperature Gruneisen Parameters"; K.B. Wischmann (5511), "Sub Order Transitions in an Amine and Triol Cured Urethane"; J.G. Curro (5511), "Theoretical Basis for the Viscoelastic Response of a Polymeric Network"; R.C. Hughes (5514), "Germinate

Recombination of X-ray Excited Carriers in Organic Solids"; R.C. Powell (5514), "Energy Transfer in Naphthalene Crystals."

R.E. Luna and H.W. Church (both 9344), "A Comparison of Turbulence Intensity and Stability Ratio Measurements to Pasquill Turbulence Types," Conference on Air Pollution Meteorology, April 6, Raleigh, N.C.

J.D. Theis (5315), "The Development and Testing of a Carbon/Carbon Composite Fabricated by Chemical Vapor Infiltration of a Filament Wound Substrate," 5th St. Louis Symposium on Advanced Composites, April 6-7, St. Louis.

J.W. Reed (9344), "Low Frequency Periodicities in Panama Rainfall Runoff"; R.E. Luna (9344), "A Climatology of Atmospheric Diffusion Prediction Variables," 52nd Annual Meeting of the American Geophysical Union, Washington.

L.E. Pope (5133), "The Effects of Deformation and Hydrostatic Pressure on the Martensite to Austenite Phase Transition," University of Utah, April 14, Salt Lake City.

H.M. Stoller (5310), "Properties of an Isotropic and Anisotropic Carbon/Carbon Composite"; D.J. Rigali (1225), "Flight Evaluation of Two All Carbon Reentry Heat Protective Systems"; D.P. Aeschliman (9342), "Shock Tube Study of Water Drop Deformation and Displacement," AIAA/ASME 12th Structures, Structural Dynamics and Materials Conference, April 19-21, Anaheim, Calif.

T.R. Guess (5314), "Characterization of Mechanical Behavior of Filamentary Composites"; G.R. Case (2652), "Acquisition of Computer Aided/Design/Analysis Model for Semiconductors," American Society of Testing and Materials Symposium, April 20-22, Anaheim.

J.L. Irwin (1225), "An Evaluation of Felt Substrate and Processing Parameters for a Chemical Vapor Deposited Carbon Composite Material"; with O.J. Burchett (7362), "Evaluation of Carbon/Carbon Reentry Heat Shields by Nondestructive and Destructive Tests," 16th SAMPE Symposium and Exhibition, April 21-23, Anaheim.

Bernard Stiefeld (7361), "Computer Based Large Area Data Display"; L.C. Bennett (7524), "A Computerized Ultrasonic Data Acquisition System," 8th Symposium on Nondestructive Evaluation, April 21-22, San Antonio.

R.J. Baughman (5154), "Czochralski Growth of  $\text{LiAlO}_2$  Single Crystals," American Association for the Advancement of Science, April 21-24, Tempe, Ariz.

Albert Narath (5100), "Spin Fluctuations in Metals: Nuclear Magnetic Resonance Studies," Ford Motor Research Labs, April 2, Dearborn, Mich., and Solid State Colloquium, IIT, April 14, Chicago.

P.S. Peercy (5152), "Light Scattering from Solid State Plasmas in  $\text{CdS}$ ," University of Missouri, April 2, St. Louis.

K.R. Hessel (7211), "Optical Spectral Analysis Using an Extended Aperture Technique," 1971 Spring Meeting of the Optical Society of America, April 5, Tucson.

K.J. Touryan (9340), "Aerothermodynamics Research at Sandia Labs," N.M. State University Seminar, April 12, Las Cruces.

P.J. Chen (1721), "Acceleration Waves in Solids," Johns Hopkins University, April 7, Baltimore.

H.W. Church (9344), "A Climatology of Atmospheric Diffusion Prediction Variables," American Geophysical Union National Meeting, April 12-16, Washington.

H.D. Sivinski (1740), "The Planetary Quarantine Program," AIAA Albuquerque and Dayton-Cincinnati Sections, April 13, Albuquerque.

A.C. Switendick (5151), "Influence of Structure on the Electronic Properties of Metal Hydrides"; H.T. Weaver (5154), "Hydrogen Diffusion in Metal Hydrides," Hydride Research Seminar, April 15-16, Sandia Laboratories-Livermore.

C.M. Percival (5315), "Material Response to Pulsed Laser Energy Deposition," Washington State University ME and Physic Department Seminar, April 22, Pullman, Wash.

N.J. DeLollis (5333), "Adhesion Science or Black Magic?" New Mexico Chapter of SAMPE, April 28, Albuquerque.

R.T. Meyer (5224), "Mass Loss and Gas Titrations of Laser Vaporized Graphite," Workshop on Graphite Ablation, March 25-26, Los Angeles.

G.R. Case (2652), "The Net-2 J-FET and MOSFET Models," Computer Aided Circuit Analysis Conference, March 31, Kirtland AFB.

J.R. Adams (2633) and H.L. Floyd (2652), "Evaluation of the Mechanical Integrity of Beam Lead Devices and Bonds Using Thermomechanical Stress Waves," 1971 IEEE Reliability Physics Symposium, April 2, Las Vegas, Nev.

## Community Action

# Sandian Mel McCutchan Works To Cut State Unemployment

Mel McCutchan, supervisor of Community Action Division 3235, is a man who ought to feel some satisfaction from his service to the State of New Mexico. For the past 10 years Mel has been instrumental in establishing the eight state vocational and technical schools plus Albuquerque's Technical-Vocational Institute.

A decade ago, Mel headed Sandia's in-house technical training programs. There were no technical training schools in the state. His experience at Sandia put him in the vanguard of concerned citizens who organized efforts to establish the schools. He served on numerous committees, wrote dozens of proposals, attended meetings throughout the state, testified in legislative hearings and, in short, became the leading spokesman for technical education in New Mexico. He served as chairman of the State Advisory Council for Vocational Education.

But Mel isn't happy. And there's still more to add to the achievement list. From promoting vocational and technical education, Mel moved into the area of promoting jobs. He is now serving as a loaned executive with the National Alliance of Businessmen (NAB) and is involved with AIDS, the State Department of Development, and local development groups throughout the state. He has prepared labor training plans for every new industry which has established facilities in the state in recent years. In many cases, Mel has obtained the training funds necessary through his intimate knowledge of state and federal programs which assist job training. This again is a remarkable contribution for a man whose original ambition was to be a classroom teacher.

But Mel isn't happy.

"Some 175,000 people in New Mexico are either unemployed or under employed," Mel says. "All our efforts to establish new jobs in the state have not made a dent in this figure — the problem is normal population increase. We have to create 10,000 new jobs each year just to stay even.

"Our young people — the ones that we've educated and trained — are leaving the state by the tens of thousands. Our statistics show 130,000 young people left New Mexico in the past 10 years. Our kids can't find work. Now,



MEL McCUTCHAN (3235)

*"The most urgent need in New Mexico today is economic development."*

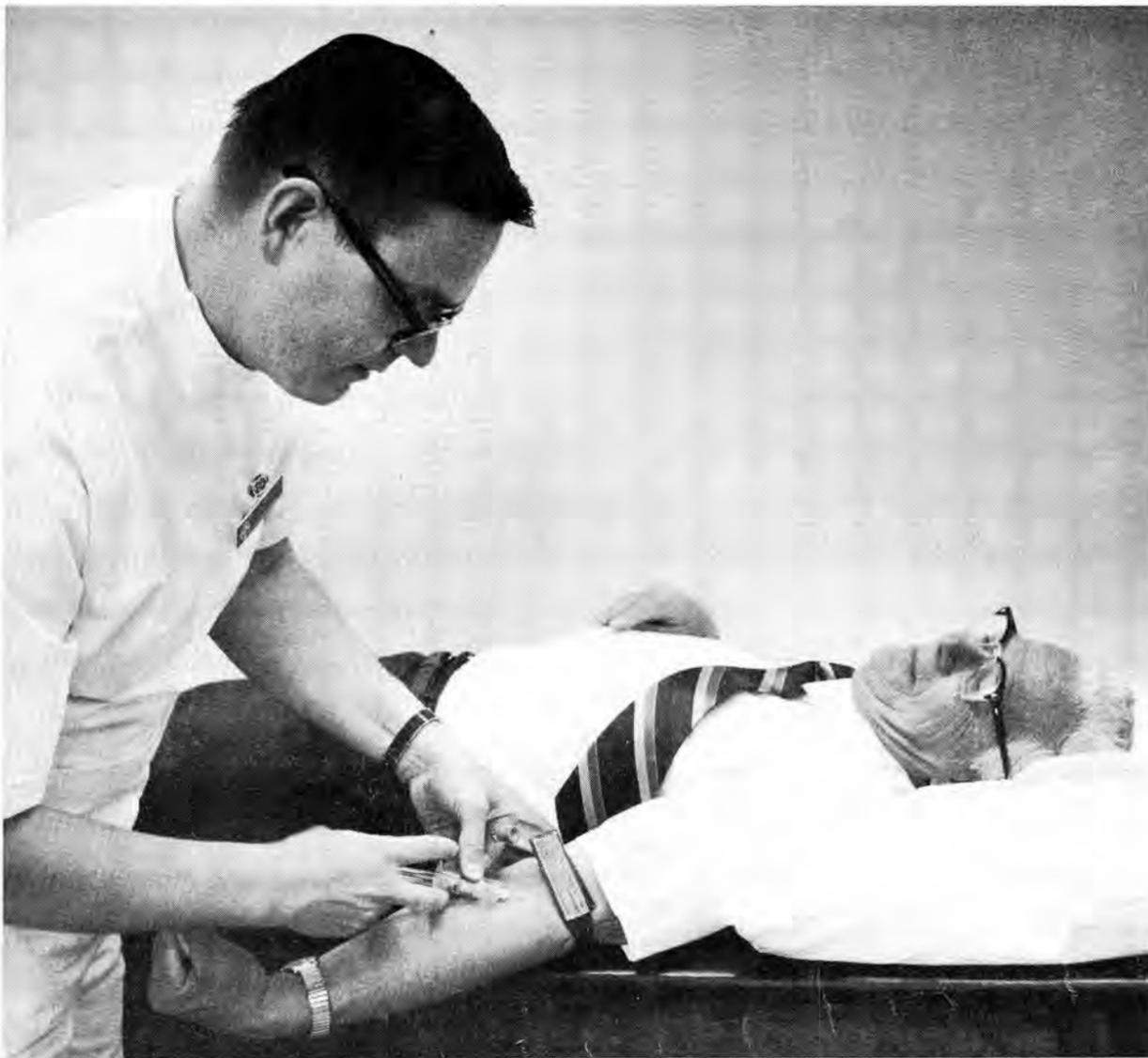
with a general business slowdown throughout the nation, this immigration has slowed somewhat so that unemployment in the state is creeping upward.

"Creation of new jobs — economic development — is the most urgent need in our state — more important than ecology, conservation, or Sunday liquor sales."

Mel shakes his head. "I don't want to preach," he says, "I dislike pollution as much as anybody. I hate crowded streets and a littered countryside. But the thwarted ambition of our kids is heartbreaking.

"The question is not really one of ecology vs. industry. There are clean industries and the state is working hard to find firms — electronics, light manufacturing, clothing fabrication, packaging, distribution — who might find New Mexico an attractive place to do business. Defeat of the recent bill to provide funds to train workers for new industry locating in the state will be a severe handicap in attracting new industry."

In the meantime, Mel keeps working with the NAB to create jobs for disadvantaged workers, to train the unskilled, to counteract negative work attitudes, and to convince people of the urgency for economic development.



THE PAINLESS TOUCH is demonstrated by Jim Day, medical technologist, in extracting a blood sample from Charlie Herrmann (3452). Last year Jim analyzed 2200 blood samples as part of Sandia's industrial medicine program.

## Meet Jim Day— The Friendly Sandia 'Vampire'

Most Sandians at Albuquerque eventually meet Jim Day, the friendly "vampire" of Industrial Medicine Department 3320. Actually, Jim's title is medical technologist and he's had a lot of training and experience in order to handle all of the blood sample analysis in Sandia's industrial medicine program.

The reason Jim eventually meets most Sandians is because eventually most Sandians are scheduled for a physical examination by the Medical organization 3300. For instance, last year more than 2000 employees were given complete physicals. Jim extracted the blood sample from all of these and he's got a nice touch.

"If they don't watch me insert the needle, then they hardly feel a thing," Jim says. "They don't flinch unless they see me stick it into the vein."

After the blood sample is taken, Jim analyzes for 10 different kinds of data. The sample reveals general infection (either viral or bacterial), hemoglobin (iron content), relationships of red cells and white cells (general health), size of blood cells, diabetic condition, cholesterol level, general functioning of heart, kidney, liver and lungs. General lung function is screened by blood levels of carbon monoxide and oxygen saturation.

This information is reviewed by the doctor who examines the employee during the second phase of the physical. This occurs about a week after the employee receives a series of tests which include x-rays, EKG, etc. From the examination, an overall picture of the employee's health is obtained. Purpose of the program is to spot health problems before they become serious. After consultation with the Sandia physician, the employee is advised about a personal health program or urged to see a private physician for treatment if any is needed.

Industrial medicine, except for medical problems resulting directly from job activities, is a "preventive" program. As in car maintenance, it is better to pinpoint possible trouble before it happens.

Physical examinations are offered to every employee 40 years old and under every four years. From age 41 through 50, the physicals are performed every three years. At ages 51 to 60 every two years is the rate, and annual physical examinations are given to employees age 60 and over.

Supervisors are examined frequently and receive annual physicals starting at age 46. Some employees in critical assignments, such as security inspectors and field service engineers, receive annual physicals.

The "bottleneck" in all of these examinations used to be Jim's job of blood analysis.

"I did them all manually," Jim says, "and it took a lot of time. Now we have three automated machines which perform the analysis in a matter of minutes. We get more data, more accurately and in less time."

Jim was a pharmacy major at the University of Texas before specializing in medical technology. Before joining Sandia seven years ago, he set up the laboratory and worked for the University of New Mexico Health Service.

## Ceramic Material Helps Maintain Constant Voltage



Stuetzer



Neilson

If you have a power generator and you want this power to do a particular type of work, it's usually undesirable if the voltage becomes too high.

The problem of maintaining a constant voltage led Frank Neilson, manager of Radiation and Nondestructive Testing Department 7360, and Otmar Stuetzer, manager of Exploratory Test Measurements Department 7210, to design an antiferroelectric voltage regulator which was recently patented.

Through placement of a sliver of specially-prepared antiferroelectric ceramic material between electrodes, the device is able to store up surplus energy for later use.



AUTOMATED BLOOD ANALYSIS is accomplished in Sandia's medical laboratory through the use of three machines such as this Coulter Counter. The analysis for 10 types of data can be performed in a matter of minutes. Previously, Jim performed the exacting procedures manually.

## Events Calendar

**May 7-9** "Dovetail," a rock and roll play. Old Town Studio, for reservations tel. 242-4602.

**May 12-16** - "An Italian Straw Hat," UNM Drama Department.

**May 19** - UNM Symphony Orchestra, 8:15 p.m., Popejoy Hall.

**May 21-23** YWCA charter bus trip to Monument Valley and Chaco Canyon. For reservations tel. 247-8841.

# Authors

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Albert Narath (5100) and H.T. Weaver (5154), "Nuclear Magnetic Resonance in Exchange-Enhanced Metals:  $^{103}\text{Rh}$  Knight Shifts and Relaxation Rates in Palladium-Rhodium and Nickel-Rhodium Alloys," Vol. 3, No. 3, PHYSICAL REVIEW B.

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H.T. Weaver (5151) and Albert Narath (5100), "Low-Temperature Pressure-Dependence Studies of Knight Shifts and Nuclear Spin-Lattice Relaxation Rates in Cesium and Rubidium Metals," Vol. 1, page 973, PHYSICAL REVIEW B.

G.E. Pike (5152), "Superconductor Energy Gaps from Tunneling," Vol. 42, No. 2, JOURNAL OF APPLIED PHYSICS.

J.E. Schirber (5150), "Effect of Pressure on the Fermi Surface of Zr," Vol. 33A, page 172, PHYSICS LETTERS; with A.C. Swindick (5151), and W.J. O'Sullivan (University of Colorado), "Fermi Surface Parameters and Band Structures for the Noble Metals," Vol. 1, page 1443, PHYSICAL REVIEW B.

D.A. McArthur (5223), "Optical Mixing in Cadmium Telluride Using the Pulsed Water Vapor Laser," Vol. 16, page 452, APPLIED PHYSICS LETTERS.

F.C. Perry (5225), "Thermoelastic Response of Polycrystalline Metals to Relativistic Electron Beam Absorption," Vol. 41, Page 5017, JOURNAL OF APPLIED PHYSICS.

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J.E. Powell (5223), "Fast Neutron Spectrum Measurements in the MTR Scandium and Iron Filtered Beams," Vol. 87, No. 1, NUCLEAR INSTRUMENTS AND METHODS.

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R.J. Chaffin (5112), "Grid Separated Microwave Triode Oscillators-Analysis and Design," MTT-19, No. 1, IEEE Trans. PGMTT.

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A.J. Fuller (3251), "Building a Technical PhD Hiring Program," Feb.-March issue, JOURNAL OF COLLEGE PLACEMENT.

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THERE'S enough junk already in our air from natural and not-so-natural causes, and cars that tear along dirt roads don't help matters much. According to the county's Air Quality Control Board, dust from this source

accounts for nearly 30 percent of the total of particulate contamination. The message: be good to your lungs and your car—avoid dirt roads when you can.

# Service Awards

May 7-20

## 25 Years

William Kingsley 3310, John Bryson 8271, Leslie West 9424, Bill Funk 8230, and James McGovern 4310.

## 20 Years

Gerald Hurley 1612, John Toler 3520, William Buckalew 5226, Joe Duran 4614, Consuela Gonzales 3421, Mary Sparger 8261, Hubert Hacker 4338, William Wing 7425, Robert Devore 7620, W.A. Johnson 4623, Ralph Olson 7451, M.J. Gallegos 2335, Shelton Shannon 4253, and Malcolm Ward 4518.

## 15 Years

Arthur Lites 1612, Eugene Aronson 2625, Nick DeLollis 5333, L.D. Hubbard 7324, William Walton 7415, Milton Morris 7424, Donald Perrette 7523, Robert Hedberg 7252, Mary Dean 3421, William Gault 7342, James Hillman 7434, Addison Cockrill 9239, Onesimo Martinez 4212, William Meador 5154, and Albin Canute 9228.

## 10 Years

Ida Nelson 4136, and Dorothy Capes 5220.

# Help Needed for Sandian Whose Home Burned

Thurman Foreman, a janitor working the night shift, had the interior of his home destroyed last weekend when the hot water heater exploded and a fire resulted. The contents of the house, not insured, were destroyed. Donations of cash or clothing for his seven children, ranging in ages from 5 to 18, would be appreciated. Rudy Baca (4552), ext. 1533, is organizing assistance to the family.

## Sympathy

To Roland Cleveland (7613) for the death of his father in Worcester, Mass., April 12.

To Bill Davis (4151) for the death of his mother in Elk City, Okla.

To Dean List (9123) for the death of his father in Jackson, Mich., April 24.

To Earl Simonson (4122) for the death of his father in Sidney, Mont., April 22.

To A.J. Peterson (9124) for the death of his mother in Visalia, Calif., April 29.

## China next?

# Table Tennis "In" Sport

Table tennis apparently is experiencing a rebirth of interest in Albuquerque. The New Mexico Open Table Tennis Tourney was held here April 24—the first such competition in the city in many years. Players were on hand from Arizona, Texas, Colorado, and other parts of New Mexico.

Sandians winning trophies included: Keith Treece (2442), first place class A singles; Keith and Daril Gutscher (1213), first place class A doubles; Paul Longmire (1517) and Ray Reynolds (1531), second place class A doubles; Dwayne Mozey (1211) and Jarvis Bumgarner (1611), first place class B doubles; Casey Kassens (1211) and Norm Grandjean (1221), second place class B doubles; Norm, second place class B singles; George Ingram (5133), first place consolation singles; Ray Reynolds, second place consolation singles; and Gloria Toland (4623), second place women's singles.

Many of the above Sandians also hold office in the Albuquerque Table Tennis Club, which sponsored the event.

## Variable Annuity Unit Value

May 1971	1.689
April 1971	1.631
Average 1970	1.417

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## • SHOPPING CENTER •

**CLASSIFIED ADVERTISING**  
Deadline: Friday noon prior to week of publication unless changed by holiday.  
A maximum of 125 ads will be accepted for each issue.

**RULES**

1. Limit: 20 words
2. One ad per issue per person
3. Must be submitted in writing
4. Use home telephone numbers
5. For Sandia Laboratories and AEC employees only
6. No commercial ads, please
7. Include name and organization
8. Housing listed here for rent or sale is available for occupancy without regard to race, creed, color, or national origin.

## MISCELLANEOUS

"FINE ARTS" china, Classic Dignity pattern, service for 5, used twice. Tufts, 255-9663.

GUITAR AMPLIFIER, 2-channel solid-state, 60 watts peak power output, variable reverb & tremolo, Heathkit TA-16, less than 1 yr. old, \$100. Ortiz, 877-3025.

DINETTE SET, formica top table, 60", extends to 72", 8 chairs, \$25. Verardo, 255-6385.

ELECTRIC FORTRON camera, electronic flash, film coupons, photo albums, carrying case, etc., cost \$400, sell for best offer. Harde-man, 265-4373 after 5.

2 NEW E70-14 tires, \$50; 4 chr.-rev. Chevy wheels, \$65; 2 sets VW to Chevy wheel adapters, 68-71 VWs, \$10 set. Hammons, 296-6339.

UNIVERSAL deluxe gas range, auto-temp. controlled griddle, timed oven, rotisserie, white, \$50; golf cart, used once, \$7.50. Field, 345-1470.

AMPEX tape deck (2150), \$300; Dynaco preamp, \$150; Dynaco FM-MX tuner, \$50; Rek-a-kut record player, \$60; University TM-2 speaker, \$100. Walling, 296-4173.

CAMERA: Ansco A4 35mm color w/Skan lightmeter, \$22; Polaroid J66 B&W postcard size, \$50; leather cases included. Adams, 296-5126.

SILVER & BLACK 1/2 Yorkshire terrier, 1/2 Pekingese, 14 mos. old, house-broken, has all shots, \$20. Dold, 842-7207.

LAWN MOWER, hand push type, \$3. Stark, 296-4971.

DINING ROOM SET; baby furniture; antiqued buffet. Fisher, 299-9235.

BASSINET w/folding legs, skirt, mattress & pad, \$8. Anderson, Los Lunas 865-9986.

LADIES GOLF shoes, new, size 6 1/2 AA, Philgreen, 256-1956.

SLENDERETTE MACHINE, \$35; Ho Tai statuettes, 12" high (1 is cracked), both for \$6; blond cocktail & 2 end tables, \$25. Grimes, 299-2548.

CHAIN LINK FENCE, 30' x 4' high, includes gate & all posts, used, excellent for dog run, \$40. Moyer, 298-1778.

BRAIDED OVAL 9 x 12 rug, lt. beige, \$25; GE port. dishwasher, \$60; young male goat. Fisher, Bosque Farms, 1-636-2864.

TOY POODLES, silver, 6 wks. old, male & female, AKC reg. Shipley, 298-2433.

10-16.5, 6 PLY tubeless nylon Good-year tires & 5-hole rims. Shenk, 296-6015.

AIR CONDITIONER, refrigerated Frigidaire window type, 11,500 BTU; mahogany Duncan Phyfe drop-leaf table. Aronson, 268-7109.

SPEAKERS, 1 pr. ADC 303AX, new, best buy rating from Consumer's, 17% below retail, \$172. Pike, 299-6153.

GERRY PAPOOSE CARRIER, \$7; baby toilet, \$3; 4' x 6' handwoven area rug, \$75; 8' living room sofa, \$150. Stirbis, 299-5363.

USED steel frame windows, 3' x 6', \$8; 5' x 8', \$20. Whan, 268-0687.

DIAMOND engagement ring, diamond wedding ring, make offer; racing equipment for YAMAHA DT-1; Ludwig bass drum. Roeschke, 282-3234.

'70 KAWASAKI 90 trail bike w/helmet, 5000 miles; Coleman catalytic heater, 3000/5000 BTU. Lewin, 898-2303.

'70 COLEMAN Holiday 9' x 12' cabin

tent, outside frame, \$70; Coleman 3-burner stove & cast alum. grid-dle, \$14; Gerry rucksack, \$13; open cartop carrier, \$6; 40-qt. cooler, \$5. Roberts 298-9163.

USED BRICKS: over 1400 common red bricks, like new, sell at 2 cents per brick. Beckmann, 296-1829.

ONE-THIRD share in K-model Bonanza, 600 hrs. on chrome major, dual nav-com, ADF, EGT, three-axis auto pilot. Reed, 299-7425.

GARAGE DOOR, 7' x 8' complete w/hardware. Trujillo, 344-5090.

'70 450 Ducati SCR, 2000 miles, \$675. Munford, 296-4552.

ALL STEEL storage cabinets, 6'6" x 18" x 36", \$20. Metzgar, 242-1028.

GOLF CLUBS, right hand, 8 irons, 3 woods, 1 putter, bag, \$20; Stauffer exerciser, \$35; white plastic headboard for king-sized bed, \$20. Breckenridge, 298-0042.

PORTABLE stereo; super-8 projector; hair dryer; 10 x 10 rug; electric washer-dryer; push lawn mower; TV antenna. McGovern, 296-6813 after 6.

FREE to good home, 4 kittens, mixed breed, mother is reg. Siamese. Bartlett, 299-4811.

BLACK kittens, male & female, father Siamese, 6-wks. old, free. Colgan, 344-3776.

TRAILER, travel, Aristocrat la-liner '63, 13', front kitchen, oven, self-contained, 12V battery, sleeps 2 adults, several children. Devlin, 299-1450.

TRAILER, utility, heavy duty, see at 625 Georgia SE, \$125. Baca, 255-8452.

'69 HONDA CT90 trail bike, \$225. Yearout, 282-3235.

'67 B.S.A. motorcycle 650 Lightning, \$650. Colborne, 898-2317.

## CARS & TRUCKS

'67 VW Microbus deluxe, recent rebuilt engine by VW, new premium tires, \$1475 firm. Small, 299-0023.

'61 FORD Fairlane sedan, 6-cyl., \$200. Durant, 298-4952.

'66 MGB conv. Newman, 256-9174.

'64 RENAULT DAUPHINE. Randle, 867-2668.

'61 RAMBLER, 4-dr., AT, best offer over \$150. DeZeeuw, 296-1003, 12512 Loyola NE.

'66 FORD Galaxie HT, AC, R&H, \$600. 1920 Bryn Mawr NE, Oldham, 268-9343.

'64 PONTIAC Bonneville, 4-dr. HT, AC, power, etc., low mileage, \$800; '68 Fiat 850 Spyder conv., radio wsw, \$1275. Duimstra, 299-6106.

'69 BUICK Electra, AC, AT, PS, AM-FM stereo, 6-way power seat, power disc brakes, positraction, Michelins, 28,000 miles. George, 299-9101.

'69 LTD FORD, V8, AT, radio, less than 7000 miles. Gräff, 268-5291.

'67 CAMARO 350SS, disc brakes, positraction, 4-spd., custom factory interior, all instruments, engine chrome. Kirchmeier, 255-0222.

'61 DODGE Lancer, 4-dr. sedan, 3-spd. trans., radio, \$175. Wilson, 268-3633.

'67 FORD station wagon, 10-pass., air, full power, orig. owner, \$100 above wholesale \$1200. Moore, 299-3758.

LAND ROVER 109 station wagon, new tires, brakes, \$1400; trailer, 4 x 8 steel, Heavy duty, oak stake sides, \$300. Linn, 282-3383.

'71 DODGE motor, V8, 318 cu. in., clutch & trans. included; go-cart w/3 new tires. Wilkinson, 516 Hill-view Ct., 299-8327.

'55 CHEV. pickup, 1/2-ton, 4-spd., King, 282-3186.

## REAL ESTATE

2-BDR. & den w/tp, recently redecorated, attached garage, KAFB/UNM area. Waddoups, 1-865-7952.

GLENWOOD HILLS, .65 acres bordering National Forest land, un-restricted view of mountains, \$8500 - open. Bruckner, 298-7295.

MOUNTAIN LOT, 2-bdr. Spartan trailer, 9 miles east of Cuba. Stradford, 242-9497 after 5:30.

4-BDR. BRICK, 2 baths, 2-car garage, pitched roof, FR w/tp, Mitchell, Hoover, Eldorado schools. Scranton, 299-4902.

## WANTED

3- OR 5-SPEED girl's bike. Schuster, 255-5970.

WATER SKI BELTS, foam plastic type preferred. Baxter, 344-7601.

USED Gerry baby carrier in good condition, model w/adjustable seat preferred. Erlandson, 296-7351.

PIANO, good used to buy or loan. Butler, 898-0654.

OLD INDIAN ITEMS: rugs, baskets, pots, jewelry, beaded buckskin shirts, moccasins, etc., will pay cash or trade guns. Zaluga, 344-1564.

USED FORD F-250 3/4-ton truck w/ or w.o. a small camper. Miller, 282-3189 after 6.

CB TRANSCEIVER, transistorized, 12 volt, 2-channel minimum. Fisher, 299-9235.

## LOST & FOUND

LOST—gold frame Rx sunglasses, engraved pen & pencil & SC pen & pencil in holder, black wallet, sunglasses w/brown rims, sunglasses w/lg. brown rims, Indian ring/mother of pearl-turquoise-red onyx & jet inlay, silver & turquoise screw-type earring, set of keys on chain. LOST & FOUND, tel. 264-2757, Bldg. 832.

FOUND—Sunglasses, black RH kid glove, Boy Scout Webelos merit pins, blue RH cloth glove, Swank silver tie bar, Rx safety glasses in brown case. LOST & FOUND, tel. 264-2757, Bldg. 832.

# Merry Month of May Set at Club



MODELS Judy Roberts, Soila Candelaria, and Jeanette Mares showed swim suits last week at a noon hour fashion show to remind the troops that the Coronado Club twin pools open May 29.



MAZATLAN to 141 Coronado Club travelers was all it was supposed to be and then some. The surf, shrimp, parachute rides, deep sea fishing, etc., were great. Little 86-lb. Wynne Cox (3422) caught a sailfish bigger than herself. Others caught "Montezuma's Revenge" but mostly everybody relaxed in the sun and enjoyed the eight-day holiday. Chet Fornero (4337), Club travel director, says that in response to overwhelming requests he will book another tour there next fall if possible.



MRS. WILLIAM MEYER is the newly-elected president of the Sanado Woman's Club. She and other new officers will be presented tomorrow night during the group's annual dinner dance at the Club.

# Ah Spring!

## WITHOUT SAFETY BEEWARE



For the merry month of May ye olde Coronado Club plans a full calendar of outstanding events.

**TONIGHT**, the troops will gather for Happy Hour starting right after work and make merry until midnight. Sol Chavez and the mighty Duke City Brass will be on the bandstand from 6 to 9 p.m. while Smiling Jim Noonan, Club manager, spreads his special Italian food buffet. A barrel of chianti will sell for 20 cents a glass to augment the usual Happy Hour refreshments. Yolanda Adent will entertain in the main lounge with a sing-along from 9 until 12 p.m. Stu Bryan will assist on banjo.

**TOMORROW NIGHT** the Sanado Women will hold their annual spring dinner dance and introduce newly elected officers. Mrs. William Meyer will head the group through the coming year.

**TODAY** through Sunday, the Sanado art groups will display their work on the Winrock mall.

**NEXT FRIDAY**, May 14, the Four Keys will make the happy music while handcarved baked ham heads the buffet menu.

**ON SATURDAY**, May 15, the vaudeville show will be presented by the Arts Music Club with singing and dancing and things like that. Happy Hour prices will be in effect starting at 7 p.m. and super sandwiches will be available. An underwater adventure film, "Painted Reefs of Honduras," will be shown along with two chapters of "The Phantom Creeps." Admission is free to members and families.

**HAPPY HOUR** Friday, May 21, will see wildman Bob Banks breaking things up in the ballroom with the crazy red Yamaha electronic organ and the terror trio. Veal cutlets will be spread for the buffet.

**LATIN FIESTA** Saturday, May 22, will feature a tremendous buffet Mexican style with the works. Sol Chavez will produce the

music for dancing while a mariachi band will entertain during dinner. The event starts with cocktails at 6 p.m. with a free marguerita for each trooper. Make your reservations early.

**THE TWIN POOLS** open at 11 a.m. on Saturday, May 29, and a gala patio party is planned for the afternoon. Musicians will entertain and beer will sell for 10 cents. Swim tickets are not required on opening day but it's members only.

**THE LAS VEGAS** tour is set for July 23-25 with headquarters at the Castaways Hotel. The \$99 fee includes air fare, local motel/airport transportation, two dinners and shows, a welcoming cocktail party, etc. Details are available at the Club office. A \$25 deposit should be paid right away with the remainder due by June 15.

**THE MAZATLAN TOUR GROUP** — the suntanned ones — will meet at the Club on Tuesday, May 11, at 7:30 p.m. to show slides and movies taken on the trip. The rest of you are invited to eat your hearts out.