

ACHIEVEMENT AWARD for outstanding participation in IDEP was presented to Sandia during the group's annual workshop conference. Shown with the award are (l to r) W. W. Westman, Jr. (2114), Sandia IDEP representative and general chairman of the national workshop; Lt. Gen. J. W. O'Neill (USAF); and President John A. Hornbeck.

National IDEP Award Presented To Sandia for Outstanding Support

A national achievement award for Sandia's outstanding participation in the Interagency Data Exchange Program during 1967 was presented to President John A. Hornbeck at the Sixth Annual IDEP Workshop in Los Angeles recently.

Lt. Gen. J. W. O'Neill, commander of U. S. Air Force, Space and Missile Systems Organization, made the presentation in recognition of Sandia's outstanding IDEP support through voluntary and timely exchange of test, reliability and other technical data, effective use of IDEP data and active participation in IDEP functions.

Sponsored by the Army, Navy, Air Force and NASA, IDEP was established in 1959 to reduce costs by eliminating duplication of effort on identical tests and technical developments. Over 170 government contractors and agencies are participating in the program which provides for an interchange of test reports and specifications on electromechanical parts and components, manufacturing methods and processes, scientific technical information and complete bibliographies on many diversified subjects. Measurable savings to the government and industry consisted of a combined total of over \$6 million for 1967 alone.

"I want to commend the Sandia employees who have contributed test, reliability and other technical data to the IDEP system, and particularly Walt Westman for his able support of IDEP," President Hornbeck stated in commenting on the award.

Walt, who is the Sandia IDEP representative, was general chairman of the recent national workshop. He served two years as executive secretary and is currently serving his sixth year as a member of IDEP's Contractor Advisory Board (CAB). At the workshop, he was named chairman of a newly-formed CAB subcommittee on Network Systems Development which has been asked by the IDEP policy board and Department of Defense to propose a system that would provide a practical and economical means of establishing a network to link all present DOD/NASA and government funded data systems.

During the last year, Walt reports that there were 464 cases in which Sandians obtained useful information from IDEP. Sandians in turn contributed hundreds of reports and also served as technical consultants on problems encountered by other participants through IDEP's Voluntary Data Inquiry Service.

helped to set guidelines for the use of lasers at Nevada Test Site.

This activity illustrates the ways in which industrial hygiene personnel try to evaluate hazards of all types: toxic chemicals; non-ionizing radiation (such as lasers, microwaves, visible, intense, and infrared ray sources); industrial noise; and sanitation. In the process of evaluating these hazards, they have frequently found it necessary either to modify existing diagnostic instruments or to design new instruments to do the job better or faster.

Two such instruments have been developed by D. R. Parker of the division. One is a sampler for analyzing explosive gases before and during detonation; the second is a portable gas chromatograph which will allow analysis of very low concentrations of toxic gases in the air. A method of generating standard amounts of toxic gases or solvents in air has been developed to allow accurate calibration of field instruments.

Hazards evaluation can be approached in two ways: field sampling followed by complete analysis in a laboratory or by

Employee Saves \$3700 By Using IDEP Reports

Using Interagency Data Exchange Program (IDEP) reports for evaluating commercially-available amplifiers has resulted in a cost savings of \$3700 for Sandia.

Amplifiers of the type needed to monitor weapon testing data recorded on a wide-band magnetic-tape recording system had not been previously evaluated.

Before ordering amplifiers for evaluation through purchasing, Norman W. Berg (2443) checked the IDEP files at Sandia and located an evaluation report on a certain type of amplifier which met Sandia's requirements.

This cost-improvement action by Norm eliminated the need for purchasing the amplifiers for evaluation tests, which would have cost over \$3250, and it also saved an estimated 60 manhours for testing the devices.

IDEP is designed to avoid duplication of costly tests of commercially-available items used in government programs. With some 170 participating aerospace companies and contractors, IDEP thus provides each participant with the support of 169 other engineering and testing groups. IDEP files currently contain about 30,000 reports on parts and techniques.

Ensuring Employee Safety

Laser, Noise, Toxic Chemical Hazards—All Problems of Industrial Hygiene

One of the most revolutionary inventions in recent years is the laser. Most people know something about the operation of lasers but few are aware of the dangers associated with its operation. There are roughly 100 lasers at Sandia Laboratories, and Industrial Hygiene Division 3311 has an intensive education program underway to promote safe use of this form of electromagnetic energy.

Supervisor W. D. Burnett explains, "The laser is more than a bright light: it is an intense source of energy. The beam can damage the retina of the eye. The light beam from a pulsed laser can also cause skin burns and destroy tissue deep in the body while accompanying shock waves can cause deep internal damage."

Mr. Burnett's interest in the subject has resulted in two technical papers: "Laser Eye and Skin Hazard Evaluations," presented at the American Industrial Hygiene Association spring meeting in St. Louis, Mo., May 15; and an earlier paper, "Laser Eye Hazard Evaluations," which was presented at a symposium on laser usage within Western Electric. He also

direct measurement in the field.

"Using a laboratory instrument in the field permits rapid evaluation," Mr. Burnett says, "but the accuracy of the measurement depends to a great extent upon the accuracy of the instrument itself. Since some off-the-shelf instruments vary in accuracy as much as 50 percent, we make sure that the instruments we use in the field are carefully calibrated."

"We support some activities at Nevada Test Site. With this portable chromatograph we can make accurate readings immediately of the gasses inside the tunnels used for testing purposes. This allows earlier entry into the tunnels to recover experiments, with accompanying savings in cost." Before the chromatograph was designed, it often took half a day to analyze field samples.

The instrument's ability to detect lower concentrations of toxic gases than was previously possible should also make it a valuable aid in air pollution studies, a field in which there is increasing interest.

Potential hazards from industrial noises are also being investigated by the division.

SANDIA LAB NEWS

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SANDIA LABORATORIES

ALBUQUERQUE, NEW MEXICO
LIVERMORE, CALIFORNIA

OPERATED BY SANDIA CORPORATION FOR
THE U. S. ATOMIC ENERGY COMMISSION

Attracts 4000 Persons

Sandia Helps in Job Fair

Over 4000 persons ranging from high school students planning their careers to elderly adults seeking job opportunities visited the Sandia exhibit and information booth at the Job Information Fair held at Civic Auditorium last weekend.

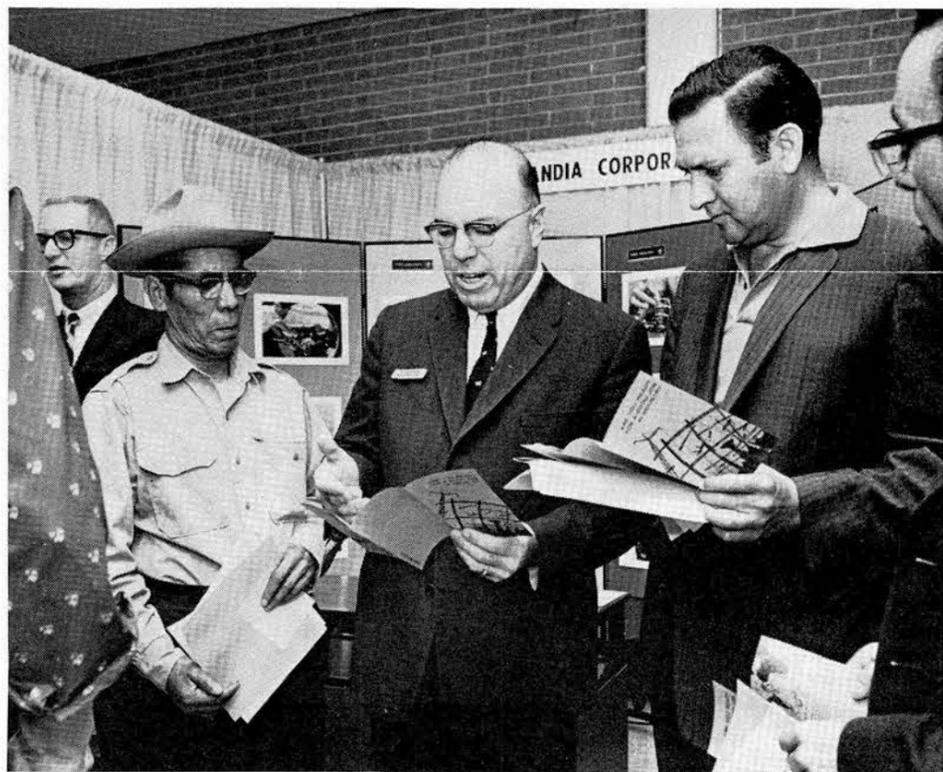
An estimated 6000 persons attended the fair which was sponsored by New Mexico employers and by Operation SER, a nonprofit publicly-funded agency to provide greater employment opportunities for the underprivileged in the Southwest.

More than 60 New Mexico employers, including city, state and federal government agencies and private business firms had information booths where fair attendees could obtain information about job opportunities, education and experi-

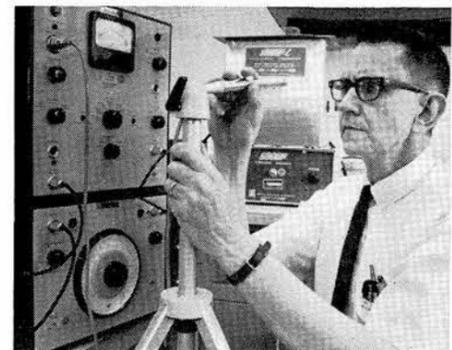
ence needed, apprenticeship programs, wages and related information.

C. W. Campbell (4000) and R. B. Powell (3000) were honorary co-chairmen of the Job Information Fair. Serving on the executive committee were W. L. Dodd (3254), who was responsible for obtaining the support of various organizations throughout the area, and J. A. Garcia II (3433), who was in charge of program planning. Lorella M. Salazar (3110) was a member of the business contact committee.

Personnel who manned Sandia's booth alternately in pairs were J. K. Merillat (3251), W. C. Garcia (3233), C. J. Otero (3241), Frieda P. Salazar, J. L. Wheeler, G. W. Elliott, Eleanor R. Kelly, A. J. Fuller and Francis H. Morris (all 3251).



SANDIA'S INFORMATION BOOTH at the recent Job Information Fair attracted many visitors. Manning booth are J. K. Merillat (3251), left rear, and W. C. Garcia (3233), third from right.



HIGH FREQUENCY sounds study, being conducted by C. P. Skillern (3311), includes measurement on sound level meter of cycles emitted by a small ultrasonic cleaner. The sensitive microphone can record up to 200,000 cycles per second.

One would normally think of such noises in connection with power plants, generators, compressors, fabrication shops, and
(Continued on Page Two)

Editorial Comment

Why Gamble?

Most people like to gamble a little. It's part of our human nature. The professional gambler, however, rarely gambles in the literal sense. He just doesn't bet unless there is an "edge" in his favor. In the parlance of gambling, an edge is any factor that tips the scale in favor of the gambler. It makes the bet a sure thing. Some edges may seem trivial to the layman but not to the gambler. For example, knowledge that a baseball pitcher is having domestic trouble, which would possibly affect his pitching, would be considered an edge by the professional.

We could all benefit by the professional gambler's techniques and edge the chance of being a coronary candidate in our favor. Medical authorities tell us that the odds of a middle-aged man getting a heart attack are increased ten-fold if he:

- Smokes cigarettes
- Is overweight
- Has high blood pressure
- Does not follow his doctor's orders
- Is physically inactive—does not get regular exercise
- Eats food containing saturated fats
- You can edge the odds of getting a coronary in your favor by avoiding the above.

Authors

R. C. Hughes (5213) and Z. G. Soos of Princeton University, "Magnetic Excitations in Charge-Transfer Complexes I: p-Phenylenediaminechloranil," Feb. 1 issue, JOURNAL OF CHEMICAL PHYSICS.

D. C. Williams (5234) and T. D. Thomas of Princeton University, "The Analysis of Nuclear Evaporation Spectra - Charged Particle Emission," Jan. 22 issue, NUCLEAR PHYSICS.

G. A. Jones (7125) and W. J. Halpin (2151), "The Shorted Guard - Ring Quartz Gauge," February issue, REVIEW OF SCIENTIFIC INSTRUMENTS.

W. R. Perrett (7111), "Deep Reflections from a Nuclear Explosion in a Salt Dome," Dec. 15, 1967 issue, JOURNAL OF GEOPHYSICAL RESEARCH.

R. W. Holland (5142), "The Analysis of Multiterminal Piezoelectric Plates," Vol. 41, No. 4, Pages 940-953; "Resonant Properties of Piezoelectric Ceramic Rectangular Parallelepipeds," April issue; and "Conversion Relations for Isotropic and Ferroelectric Ceramic Elasticity Formulations," December 1967 issue, all JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA; with E. P. EerNisse (5143), "Variational Evaluation of Admittances of Multielectroded, Three - Dimensional Piezoelectric Structures," April issue, IEEE TRANSACTIONS ON SONICS AND ULTRASONICS.

D. K. Brice (5211), "Channeling of $^1\text{H}^+$, $^2\text{D}^+$ and $^3\text{He}^{++}$ Ions in Germanium: A Diffraction Calculation," Jan. 10 issue, PHYSICAL REVIEW.

L. W. Davison (5133), "Perturbation Theory of Nonlinear Elastic Wave Propagation," Vol. 4, pages 301-322, INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES.

P. J. Chen (on leave), "On the Growth of Acceleration Waves in Isotropic Elastic Materials," March issue, JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA.

K. H. Zimmermann (2133), "Capacitance of a Concentric Cable," March issue, WIRE AND WIRE PRODUCTS.

T. F. Marker (7250), "Crystal Oscillator Design Notes," April issue, FREQUENCY.

B. T. Kenna (1121) and F. J. Conrad (2134), "Activation Analysis: Determination of Sodium in High Purity Silica," April issue, TALANTA.

R. G. Dosch (1121), "The Termination of Tercholate by Precipitation with Tetra-n-Pentylammonium Bromide," April issue, ANALYTICAL CHEMISTRY.

R. L. Fox (9326), "Calculation of Low Energy Electron-Atom Transport Cross Sections from Total Cross Section Measurements," April 5 issue, PHYSICAL REVIEW.

R. T. Meyer (5234), "Flash Photolysis and Time Resolved Mass Spectrometry. II. Decomposition of Methyl Iodide and Reactivity of $\text{I}(^2\text{P}_{1/2})$ Atoms," April issue, JOURNAL OF PHYSICAL CHEMISTRY.

J. F. Cuderman (5235) and J. J. Brady of Oregon State University, "Relative Sputtering Yields from Close-Packed Directions in Nickel under Low-Energy Ar^+ Bombardment," May issue, SURFACE SCIENCE.

L. S. Nelson (5234), N. L. Richardson (5234) and J. L. Prentice, Naval Weapons Center, China Lake, Calif., "Apparatus for the Production and Ignition of Metal Droplets with a Pulsed Laser," May issue, REVIEW OF SCIENTIFIC INSTRUMENTS.

W. E. Alzheimer (1541), "Nonlinear Unsymmetrical Bending of an Annular Plate" and with M. J. Forrestal (5635), "Transient Motion of a Rigid Cylinder Produced by Elastic and Acoustic Waves," both in March issue, JOURNAL OF APPLIED MECHANICS.

Youth Motivation

Harvey Brewster Meets in Washington, Visits Xavier on 'Task Force' Effort



Harvey Brewster (3244), one of the five Sandia members of the Vice President's Task Force on Youth Motivation, recently participated in an evaluation session of the effort in Washington, D.C., and also visited the campus of Xavier University in New Orleans.

Primary purpose of the Task Force is to motivate members of minority groups to pursue educational and training programs which will qualify them for jobs in industry. A completely volunteer effort, financed by the more than 400 participating firms, the Task Force provides "living witnesses" to the fact that opportunities exist for qualified members of minority groups.

"This was my message to the students at Xavier," Harvey says. "There are opportunities, and more are becoming available every day. I was part of a team from a number of industries. I think we effectively made the point that good jobs go to those who are qualified."

Harvey reports that the students were extremely interested and eager. In addition to the college program, Harvey visited two high schools in New Orleans and counseled with individual students.

"Although our society is undergoing crisis and sustaining tremendous pressures, it is not going to fold," Harvey told the students. "The culture is changing and improvements are being made. Still, in the long run, it is individual achievement and effort which assures a man his own future. I told them not to expect to make a lot of money right away, that patience is still a virtue, and that hard work is the name of the game."

Harvey doesn't like to preach, but in a quiet sincere way, he tells it like it is.

"There are now opportunities for members of minority groups in industry," Harvey says, "but there are still problems—people problems. In this area, the students

feel resentment and anger. I told them, hopefully in a realistic way, that, in spite of these problems, Negroes, Puerto Ricans, Spanish Americans, and Indians can achieve success in industry."

He points to the Plan for Progress firms, of which Sandia is one, as outstanding examples of progressive change. These firms, which have signed pledges with President Johnson to take affirmative action, are making more opportunities available. They are reaching beyond normal hiring activities and increasing training efforts.

"At the evaluation session," Harvey said, "the consensus was that the Task Force is a worthwhile effort. However, we felt that the program could be improved with more advance preparation for the campus visits on the part of college officials. Too many of the students had never heard of Plans for Progress. This is a tremendous program, and it is important for them to know that such a program exists. It offers valid hope in the whole area of minority group relations."

During the Washington session, Secretary of Labor Willard Wirtz addressed the group, and other officials discussed aspects of the War on Poverty.

"We felt that more industries should participate in the Plan for Progress," Harvey said, "and that more industries should realize that they have a personal stake in the educational programs of their local areas. Some industries are not fully committed to help solve the problems of the growing cities. We believe that it is local industry's responsibility and to its ultimate benefit to become committed to solving the problems. Many firms talk about doing something, but talk isn't going to do it."

"Poverty hurts industry as well as people. It's more than just hurting people, although this aspect of the problem cannot be overemphasized. Poverty is an economic waste destroying the strength of the country."

Other Sandians who participate in the Task Force include Kathy Lawson (1122), Art Hardeman (9426), George Williams (9413) and Bill Ormond (3112).

Continued from Page One

Industrial Hygiene

carpentry shops, but these sources of low frequency sounds may not be the only problem areas. We are also interested in the sounds you can barely hear: the high frequency noise sources. The division has recently measured high-frequency sounds from different sources as part of a study of sound levels.

The division's responsibility for "sanitation" includes a constant check on drinking water—well sources in outlying areas as well as the drinking fountains in the Tech areas. Some of the wells pump water from the 1000-foot level, and in 10 years there has never been a positive culture obtained from the water samples tested in the industrial hygiene laboratory.

Danger from contamination comes when an existing water line is accidentally broken, during new construction tie-in, or when

a new water line is laid. In these cases, adequate chlorination of the water and sterilization of the pipe itself are "musts." Division 3311 works closely with Plant Engineering Department 4540 in determining location of water lines to assure that there is no possibility of a cross connection with a sewer line.

The sanitation responsibility also extends to the Coronado Club restaurant and cafeterias in Bldg. 839 and Area III, vending machines on Corporation premises, and the swimming pools at the Coronado Club.

Finally, there is close cooperation with several other organizations (Safety, Plant Engineering, Research, etc.) in "engineering away" known hazards by adding special enclosures, exhaust hoods, remote handling devices and other safeguards.



DYNAMIC SOLVENT vapor generator is being used by D. R. Parker (3311) to calibrate a halide meter for accurate readings in the field. The generator produces standard concentrations of gases or vapor which can check the accuracy of air sampling equipment used by industrial hygienist.



ATOMIC ABSORPTION SPECTROPHOTOMETER is operated by J. P. Grillo (3311) to analyze the content of a particular metal in a sample. Emission tube (upper left corner) radiates characteristic lines of the particular element under study and provides a basis for comparison. Through use of this instrument analyses that previously required days of lab work can be performed in 10 minutes.

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Editorial Offices, Albuquerque, New Mexico
Employee Publications, Rm. 112, Bldg. 800,
Tel: 264-1053

Editor: Thomas B. Heaphy

Staff: Cherry Lou Burns, Robert P. Gall,
Donald E. Graham, Bill Laskar,

Public Information, Livermore, California
Rm. 138, Bldg. 912, Tel: 447-2387

William A. Jamieson, supervisor
Staff: Matthew J. Connors, Lorena Schneider

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COLLECTOR OF OLD BOOKS Carl W. Schoenfelder (8141) looks over unusual characters in the printing of a 207-year-old book that is one of over 200 old books he has acquired. Though books on chemistry, algebra, physics and religion (left) are not highly valuable from a rare-book dealer's viewpoint, finding and reading them proves entertaining to Carl.

Sandian Collector of Old Books

A review of any one of over 200 books in the collection of chemist Carl W. Schoenfelder (8141) makes it apparent that new discoveries in science are constantly in process. His collection consists of bound books 60 to 200 years old.

"It's entertaining, for example," says Carl, "to browse through Houston's 85-year-old textbook on the ELEMENTS of CHEMISTRY. Its 'Table of Elementary Substances' lists 65 principal items. A modern-day Periodic Table of Elements lists 103 items. Radium, discovered by the Curies in 1898, doesn't appear on the old textbook list."

Other books in the collection on religion, mathematics and a 105-year-old book on natural philosophy—now known as physics—attest to similar progress.

"The collection exists to be read and re-read," claims Carl. "It wasn't bought to be sold at a profit or surrounded by 'Don't Touch' signs. In fact, a rare book collector would be visibly disturbed to watch me look through my books. I do so while smoking."

Even though Carl's collection doesn't contain highly valuable rare books, acquiring it has made him very knowledgeable about collecting books.

Various factors determine the value of an old book. Age, association with people or times, demand on the rare book market, and physical condition contribute to its value.

"Age alone doesn't make a book valuable though," Carl reports. "First editions have collector appeal only when the writer or the work has endured over the years, and the economic principle of supply and demand creates a market for it." For example, the BAY PSALM BOOK was published in 1640—20 years after the Mayflower reached America. Only 11 copies of the 328-year-old book are known to exist. And of those, only two are perfect. Its greatest value is not in its age, but in its pioneer nature—the oldest surviving book to be published in the United States. For this reason alone, it was reported worth \$151,000 at one time. Its selling price was supposedly the highest paid for a book at a public auction.

Further indication that age alone doesn't determine value are the circumstances surrounding the price put on the Gutenberg Bible. Even though it was printed about 1455 (making it 513 years old), its approximate \$100,000 value is based on two factors unrelated to age. It was the first book ever printed on a press with movable type, and was the first edition of the supreme book of Christendom. These factors imply tremendous prestige to the 47 copies known to exist today from an original estimated quantity of 300.

"Association books, as the collectors call them," says Carl, "are books whose first pages have writing that reveals something about the book's owner or his association with the author." Presentation (autographed) and dedication (author's gift to person he dedicated book to) copies of books done by writers of stature are more attractive to collectors when they are signed by the author, contain his bookplate, are inscribed by him, or have a combination of these elements. An author's copy of his own work is also interesting to the collector. Books autographed by the amateur or semiprofessional writer are not valuable. Association books have become more important to collectors in recent years due to attempts to reconstruct the libraries of famous men such as Thomas Jefferson, John F. Kennedy and Ernest Hemingway.

Auction and dealer's catalogs classify a book as scarce, rare, very rare, exceedingly rare or excessively rare. After that, phrases

such as "one of six known copies" or "only one other copy known" are used. If publication of a book is suppressed or limited for any reason, or if the demand exceeds the supply, the book may command an undeserved premium and become more attractive to collectors than to readers.

A book's condition is a factor vital to its value.

"It must show signs of having been read, but never signs of having been maltreated," says Carl. "A defect in the binding or shelfback substantially lowers the value of the book. Pages badly smudged or defaced with marginal notes detract from a book's value."

"Following all the rules set down by the collectors," continues Carl, "defeats my purpose for a collection. To me, searching book stores for old scientific and technical books is a pleasure matched only by acquiring and reading them. I'll leave the financial investment and speculation to the people who devote themselves exclusively to the book business."



WISE OWL—John Jesse, Jr. (8222-2), left accepts a certificate, pin and badge as he is welcomed into the Wise Owl Club by C. H. DeSelm, Director of Staff Services at Livermore 8200, (right) and H. A. Zenger, Safety Engineering Division 8255. The club is sponsored by the National Society for Prevention of Blindness. Membership is limited to those whose eyesight was saved by safety glasses.

Welcome . . . Newcomers

April 16-May 3

California
Jerry G. Moore, Livermore8242
Returned from Leave
Janet K. Vahnleisnick, Livermore8253

Congratulations

Mr. and Mrs. Don Gregson (8130) a son,
Robert Keith, May 6.

John Jesse Escapes Eye Injury; Becomes a Wise Owl

Livermore Laboratory's newest member in the exclusive Wise Owl Club of America is John Jesse, Jr. (8222-2). The organization is sponsored by the National Society for Prevention of Blindness.

John, who avoided injury to his eye in a recent accident by wearing safety glasses, was presented last week with a membership certificate, a lapel pin, and shop badge from the national headquarters of the Wise Owl Club. C. H. DeSelm, director of Staff Services at Livermore 8200, made the award.

The accident occurred while John, an electrician in the maintenance organization, was preparing a platform to suspend a transformer on four rods from the ceiling beams in a Laboratory building. As he pushed one of the steel rods to the side to increase his working clearance, the rod slipped from his grasp and snapped back, striking the lens of his safety glasses. Although the lens was badly cracked, it remained intact in the frame.

Membership in the Wise Owl Club is made up exclusively of employees and students who have saved their eyes from injury or loss of sight through the use of safety glasses.

Three other SCLL employees are members of the club: Fred Mohmann and Lloyd Rothaker (both 8222-2), who were awarded membership in May 1962; and Roger Busbee (8127-1), who became a member in November 1966.

Sandians Donate 100 Pints In Lab Blood Bank Drive

The annual Blood Bank Drive at Livermore Laboratory has yielded 100 pints. The figure includes contributions made by spouses of four employees.

This amount, supplemented by donations made for specific individuals, should provide a ample supply for this year's needs, according to Jim Henderson (8214), drive coordinator.

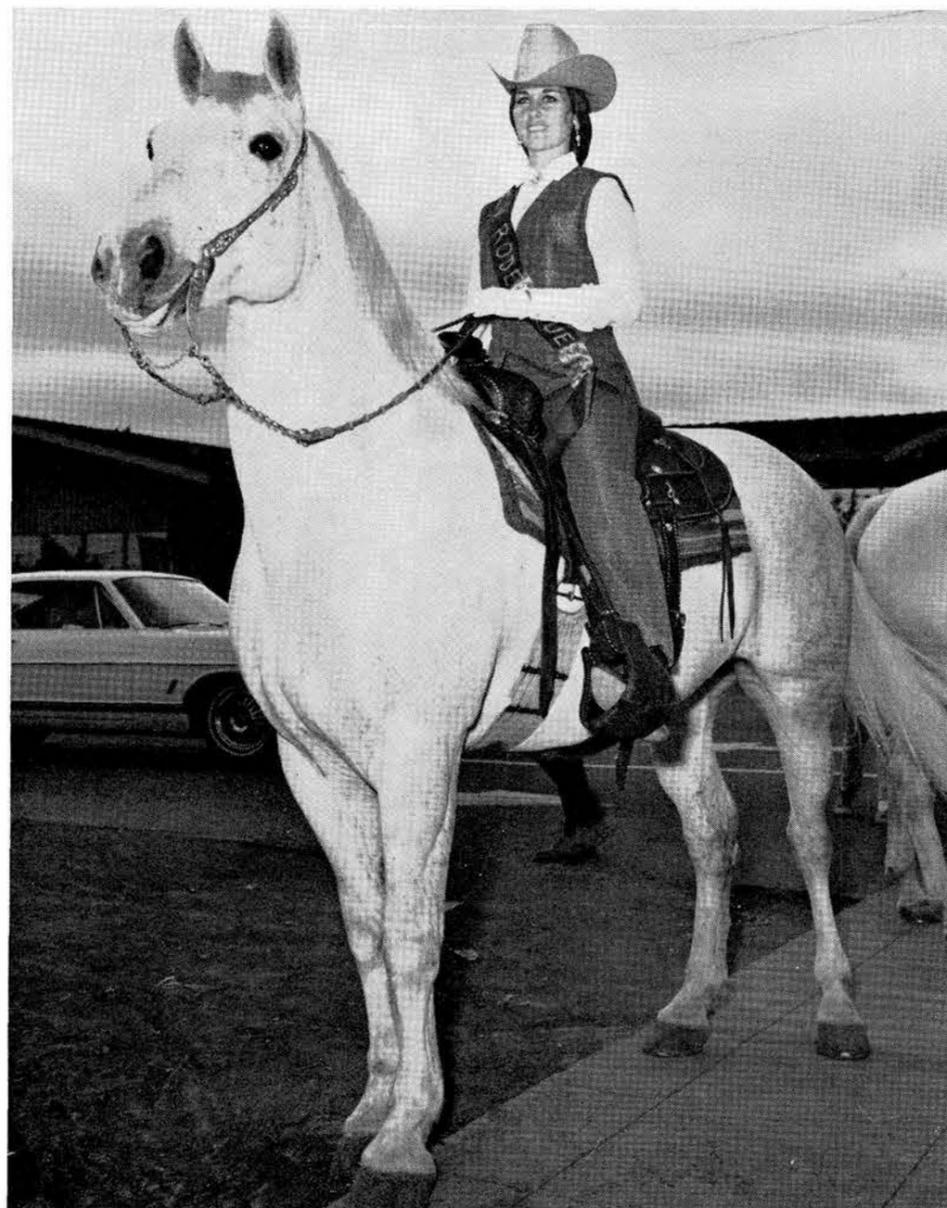
The Blood Bank, operated by the non-profit Alameda-Contra Costa County Medical Association, makes blood available without charge to all Livermore Laboratory employees and their dependents. The account is operated on a pint-for-pint replacement basis, with the patient paying for handling, storage and administrative costs.

Sympathy

To Ralph Jaeger (8231-1) for the death of his mother-in-law in Walnut Creek, April 25.

To Don Rich (8115-1) for the death of his mother-in-law in Livermore, April 28.

To Carlton A. Scott (8146) for the death of his mother in Chattanooga, Tenn., April 29.



RODEO QUEEN—Sandian Sue Cormier (8243) reigned over "La Fiesta del Valle" and the annual rodeo parade held May 3 in Castro Valley. She was selected from among 11 finalists and crowned queen during the annual coronation ball at the Willow Park Golf and County Club the week before the parade. Sue is an avid horsewoman and an accomplished singer. She has appeared with the Oakland Civic Light Opera Association for two years, the West Contra Costa Light Opera Association for one season, and recently finished two productions at the California Playhouse in Oakland—"110 in the Shade," in which she played the comedy lead, and Gilbert and Sullivan's "Ruddigore."

New Productions, Premieres In Rebuilt Santa Fe Opera-Theatre

Mention the Santa Fe Opera to an Easterner or to a European music lover and you're likely to hear high praise. There's no more talk about New Mexico being in the center of a "cultural desert."

The state has long been a mecca for painters, and now the vocal artists are finding the setting equally exciting.

The Santa Fe Opera staged its first performance July 3, 1957. It was Puccini's "Madame Butterfly." From then on some 45 operas were presented during the two-month summer season—practically always before sell-out audiences. The repertory included traditional favorites, such as "Rigoletto," "The Marriage of Figaro," "Tosca," and "Carmen." It also included less frequently produced operas such as Stravinsky's "The Rake's Progress" and Puccini's "Gianni Schicchi." There have also been a number of American premieres, such as Berg's "Lulu," and Hindemith's "The News of the Day," and two world premiere's: Levy's "The Tower" and Floyd's "Wuthering Heights"; the latter was commissioned by the Santa Fe Opera.

The seating capacity was expanded several times until it reached 1500 in 1965 with addition of a balcony-loggia, which also gave protection from sudden summer storms—the bane of any open air event.

Then last July 27, some hours after the American premiere of Hindemith's "Cardillac," the theater area was gutted by fire. Costumes, stage sets, musical scores and instruments were destroyed. Within hours, plans were underway by Manager John O. Crosby and other interested persons to rebuild the facility.

What does the Santa Fe Opera mean to the people of New Mexico? Four Sandians who are among many who attend the performances, were asked their opinion.



T. B. Cook, Jr. (5000), said, "The opera has achieved international prominence. The quality is consistently high, and we never have any reservations about taking out-of-state visitors there. Last summer we took a visitor from New York to Santa Fe for dinner then attended a performance of 'Tosca.' The setting is impressive to begin with, and during the evening, lightning began to pierce the sky in the direction of Los Alamos. Our visitor felt it was the most spectacular opera performance he had ever seen. In talking to candidates for Sandia employment, I've found many young people who were interested in knowing about the Santa Fe Opera."

Mollie Miller (3231), said, "Before moving to New Mexico I'd always had a season ticket to the Metropolitan Opera and I consider music one of the necessities of life. The Santa Fe Opera fills the cultural gap that previously existed in this state. I've seen performances at Central City (Colo.), San Francisco, and Dallas and feel that the Santa Fe company accomplishes much more in exploring the musical byways. I've always taken my children to the opera from the time they were four years old. Music especially means a great deal to my daughter and she loved Shostakovich's 'The Nose.' My favorite is 'Lulu.'"



D. P. (Denny) Gallegos (3415-2), said, "The Santa Fe Opera is important to this area because it gives the people an opportunity to see the very best in opera. Many come from out-of-state to see the fine performers. I have sung professionally myself (but not opera) and I know that these singers must practically devote their lives to the opera to reach such a degree of perfection. I think it's a good idea to hear all kinds of music in order to have a well-rounded appreciation."



R. H. McHarney, Jr. (3463), said, "I'm not an opera buff, but I enjoy the Santa Fe Opera solely for its entertainment value. To me it's another facet of the total cultural picture. My wife and I also attend performances of the symphony, the Little Theatre, and other musical and dramatic groups."



Since last summer an intensive drive has been underway by the Opera Association of New Mexico to raise \$2,400,000 to rebuild the stage and seating area and to again make possible the high quality performances already associated with the opera company. The re-opening is set for July 2 with a new production of "Madame Butterfly" to be followed during the summer with new productions of five other operas and the American premieres of "The Bassarids" by Hans Werner Henze and Arnold Schoenberg's "Die Jakobsleiter."

Foundations in the East have committed over \$1,000,000 in grants, and opera lovers from throughout the country have donated additional amounts. The Metropolitan Opera Guild has donated \$4000—the first time it has made such a grant. The New Mexico Opera Guild chapters in Albuquerque, Santa Fe, Los Alamos, Taos and Espanola Valley have sponsored numerous events for the benefit of the opera. Approximately \$350,000 is still needed. Donations should be sent to The Opera Association of New Mexico, P. O. Box 1042, Albuquerque (or P. O. Box 2408, Santa Fe).

Three Sandia technical papers will be presented at international meetings during May. K. J. Touryan (9326) presented "Laminar and Turbulent Boundary Layers Over Axisymmetric Corners in Hypersonic Flow" before the Advisory Group for Aeronautical Research Development which met in England May 1-3. This specialists meeting of a NATO-sponsored organization was primarily interested in the exchange of information on hypersonic flow over unconventional shapes and special flow fields. E. L. Burgess (9332), co-author with D. O. Akhurst (University of Arkansas) of "An Investigation of the Ionization of Mechanisms in the Ignited Mode Cesium Thermionic Converter," and M. M. Sluyter (9321), co-author with Mr. Touryan of "Thermionic Electrical Power Generation from Reentry Plasmas," will have papers presented at the Second International Conference on Thermionic Electrical Power Generation to be held in Stresa, Italy, May 27-31.

Tech Papers Presented At European Meetings

This conference was organized under the auspices of the European Nuclear Energy Agency and will be a follow up to a meeting on the subject held three years ago in London. Aim of the meeting is to give attendees a complete and up-to-date picture of research in thermionics and to indicate future trends.

More than 100 papers from 10 countries will be presented. In addition to Sandia Laboratories, U.S. scientists will represent Lawrence Radiation Laboratory, Los Alamos Scientific Laboratory, NASA, and private industry.

Other officers elected included Professor Robert Cresci, Polytechnic Institute of Brooklyn, secretary; Frank Keys, McDonnell-Douglas, St. Louis and Paul Jensen, Northrop Norair Division, executive committee.

The next three semiannual STA meetings are scheduled to be held at Ohio State University, Wright Air Development Center, Dayton, Ohio, and the Aeronautical Research Institute, Stockholm, Sweden.

SEGA Golfers Get Aces

Two more SEGA golfers recently recorded aces during competition play. This now makes a total of four aces recorded thus far this season for members of the Sandia Employees Golf Association which has a total of 326 members.

Emil Kadlec (5611), SEGA handicap chairman, recorded his ace during an evening league match at the Los Altos Golf Course May 3. Emil, a 22 handicapper, holed out his tee shot with a three iron on the par 3 number 7 which was playing 175 yards.

Mike Zownir (4252), an 18 handicapper, got his ace during a Pro-Am Tournament at the San Mateo Golf Center April 15. Mike used a wedge on his tee shot for the 87 yard, par 3 number 6 water hole.



MANEUVERABILITY of Manx car is demonstrated by Jim Warner (5611) who built the machine from junked VW and Corvair parts. He has won several gymkhanas of the Albuquerque Sports Car Club with the stubby racer.

Jim Warner Builds Hybrid Machine For Sports Car Club Competition

The stubby red bomb parked in the lot behind the Medical building is called a Manx after the tailless cat from the Isle of Man. But this car is no pussycat. It is a gymkhana tiger, having won several competitions of the Albuquerque Sports Car Club in recent months.

Jim Warner (5611), builder of the machine, read about the design last summer and sold his Austin Healy to finance the project. Basically, the car is a Volkswagen with Corvair engine. It has superior maneuverability.

"And it really goes," Jim says. "It is faster than my old sports car with much better acceleration."

From the purchase of the wrecked VW and Corvair in June 1967, it took six months to assemble the Manx. He started driving it to work in January.

The basic car is still a Volkswagen, Jim says, but 14½ inches were chopped from the chassis. Control linkages were shortened and adjustments were made in the transmission to accept the bigger engine. The fiber glass body was bought mail-order and it was filed to fit the frame.

Scrounging the parts from the junk yards took the most time, Jim reports. He has about \$1200 invested in the car plus six months of spare-time labor.

The finished machine weighs about 1400 pounds, with most of the weight riding on

the big 800.14 tires in the rear. "When accelerating," Jim says, "there is no rear wheel spin. It moves."

Jim built the car primarily for sports car competition and not for outings in the boondocks. Still, he could easily adjust the suspension to raise the body for rough country riding.

P. A. Nicovich Leader at US-British-Canadian Meet

P. A. Nicovich, supervisor of Design Definition Division 2212, is leader of the U. S. delegation at the American-British-Canadian (ABC) Conference on Unification of Engineering Drawing Practices, being held in Ottawa, Canada, this week.

Since the last meeting in 1962 each country has revised and republished its own standards on drawing practices. The differences in these were to be discussed at the current meeting with principal emphasis on dimensioning and tolerance practices.

Mr. Nicovich presented one of the 13 papers scheduled for the Ottawa meeting. His paper, "The Projected Tolerance Zone Concept," was also presented by F. F. Eichert (2210) at an international meeting in Moscow last year.

The objective of ABC is to unify the engineering standards of the three countries so that engineering data can be interpreted and utilized with a minimum of delay or inconvenience. The group was organized after World War II—the allied war effort had pointed up differences in practices and the need for exchange of information.

"ABC doesn't intend to produce standards or to compete with established national or international standardization agencies," Mr. Nicovich explains. "The emphasis is on unifying rather than standardizing the national standards of the three countries. Instead, international standards can serve as a common denominator. Each country is invited to discuss its viewpoint on the points of difference. Our approach will be on the basis of technical advantage rather than traditional usage."

The principal U. S. document under discussion was the USASI Y14.5-1966 Standard which Mr. Nicovich and Mr. Eichert helped to develop as members of the original Joint Industry-Military Standard Committee which later became the Y14.5 subcommittee. The American delegates held a pre-ABC meeting in April in New York City for the purpose of developing a "unified U.S. viewpoint."

Events Calendar

- May 17-19—UNM production of "The Amorous Flea." Rodey Theater.
- May 17-25—Albuquerque Designer-Craftsmen's Third Biennial Crafts Competition, Museum of Albuquerque.
- May 19—Trigo Canyon (western side of the Manzano Mountains). N.M. Mountain Club, leader Hans Baerwald, tel. 298-1526.
- May 25-26—New Mexico AAU Combined Men's and Women's Track and Field Championships, University Stadium.

R. C. Maydew Elected New President of Tunnel Association



R. C. Maydew, manager of Aerothermodynamics Department 9320, was elected president-elect (1968-69) and president (1969-70) of the Supersonic Tunnel Association (STA) at the 29th Semiannual Meeting at the Naval

Ordnance Laboratory, White Oak, Silver Spring, Md., on April 22-23. Purpose of the Supersonic Tunnel Association is to exchange technical information on the design, operation, instrumentation and diagnostics of aerothermodynamic ground test facilities for simulating flight from subsonic to hypervelocity (space probe entry) speeds.

STA membership is composed of 50 aerospace companies, government laboratories and universities. In addition to the 39 U.S. facilities represented, 11 aerospace companies and government laboratories from Canada, Great Britain, Sweden, France, Belgium and Holland belong to and participate in the organization.

Other officers elected included Professor Robert Cresci, Polytechnic Institute of Brooklyn, secretary; Frank Keys, McDonnell-Douglas, St. Louis and Paul Jensen, Northrop Norair Division, executive committee.

The next three semiannual STA meetings are scheduled to be held at Ohio State University, Wright Air Development Center, Dayton, Ohio, and the Aeronautical Research Institute, Stockholm, Sweden.

Service Awards

20 Years



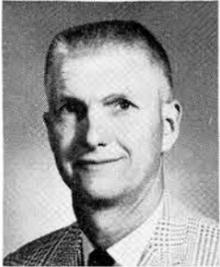
Dorothy V. Bair
4131



R. J. Beall
4613



Samuel Blaylock
4573



E. F. Carter
1426



H. D. Howell
7135



R. H. Johnson
4254



N. A. Littrell
7343



Adolfo Martinez
9221



H. V. McNabney
8255



C. B. O'Keefe
3126



J. V. Parker
4221



John Puhara, Jr.
2213



W. B. Russell
4371



J. H. Simmons
4512

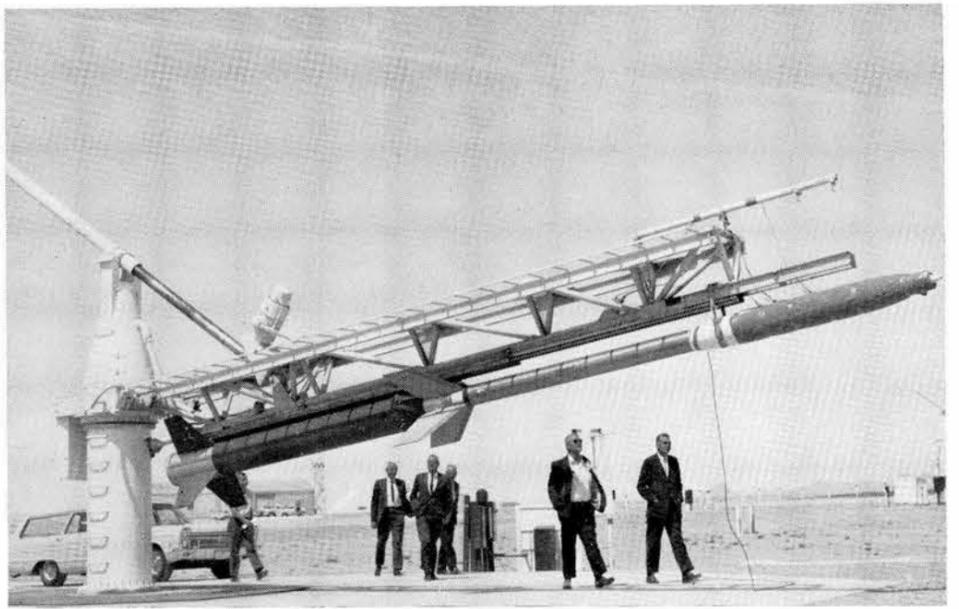


L. S. West
4573

10 Years

May 17-30

R. E. Ingram 2452, L. E. Null 2565, Shirley A. Dean 5150, T. E. Latta 9226, J. A. Ruggles 2211, L. A. Kracko 7126, and K. T. Riddle 8243.



TONOPA H TEST RANGE was visited recently by President John A. Hornbeck and other Sandia executives. Shown touring rocket launch facilities are (from left) R. R. Moore (9221), S. A. Moore (7230), R. A. Bice (7000), C. W. Campbell (4000), L. E. Hollingsworth (7200) and President Hornbeck. The group toured range facilities, attended technical briefings and met with Tonopah community leaders.

15 Years



F. W. Corner
4135



Leota Hoffert
3462



P. F. Jones
1544



F. K. Silva
2111



G. W. Treadwell
1545



W. W. Wacek
1431



J. D. Waddles
4624



F. V. Wyatt
9422

R. E. Miller Appointed Deputy Mgr. of NVOO



Appointment of Robert E. Miller as deputy manager of the Nevada Operations Office of the U. S. Atomic Energy Commission was announced on May 3 by James E. Reeves, manager. Mr. Miller has been assistant manager for Plans and Budgets since 1966, has been an official in the Las Vegas office since 1961, and has been employed by the Atomic Energy Commission, principally in nuclear testing, since 1952.

The deputy manager position in the office has been vacant for some time.

Thomas H. Blankenship will serve as acting assistant manager for Plans and Budgets, and Robert W. Taft will serve in Mr. Blankenship's place as acting director of the Plans Division.

Before he joined the AEC at Albuquerque, Mr. Miller was an engineer with the Lockheed Aircraft Corporation at Burbank, Calif., and previously served with the U.S. Corps of Engineers. He is a Colonel in the Army Reserve Civil Affairs Branch.

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MAY 17, 1968

SANDIA LAB NEWS

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 Corporation 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.

FOR RENT

TRAVEL TRAILER, 14', sleeps six, butane system, ice-box, 12-volt lights, \$35/week. Bentz, 299-3448.

FOR SALE

MISCELLANEOUS

FREE: look this old horse in the mouth, then you feed and keep, excellent with young children. Rand, Placitas.

MODEL 98 Mauser rifle, matching part numbers, post-war manufacture, Spanish crest, \$27.50. Blackmon, 298-2095.

RED MAPLE coffee table w/glass top. Campbell, 299-4830 after 5:30.

7 FT. POOL TABLE; misc. golf clubs; crib & mattress. Dehaan, 265-4511.

GOLF CLUBS: 1-3-4 woods, 2-9 irons, 1 putter, 12 ball, \$15 bag, w/tubes, practice plastic ball t's, all \$90. Eaves, 299-7728.

3-STEP steel trailer steps w/decorative handrail, \$15. Arnold, 898-1467.

TWO COSCO snack bar stools, 30" high, pair \$15, each \$7.50 & \$10. Quayle, 298-0979.

TOY POODLES, male & female, 6 wks. old, apricot, Holpp, 299-4809.

DRILL PRESS, bench model w/mortiser & shaper attachments. Waldorf, 6903 4th St. NW, 344-1017.

EXPOSURE METER, Heiland Pentax model 3/21; three degree spot exposure reading, \$20. Henry, 1828 Florida NE, 256-2467.

BOAT: 17' Owens, Evinrude 100-S w/electric tilt, fully equipped, \$1700 firm. Small, 299-0023.

ELECTROLUX vacuum cleaner, tank type, \$15. Souder, 282-3121.

RED colonial style gown, size 5, very full. Martinez, 265-7075 or 268-4298.

RANCH OAK den furniture, 7 pieces, cushions newly recovered, drapery to match. Harsho, 282-3896.

TENT camping trailer w/'68 plates, Ward's model "Traveler," sleeps 4-6 easily, plenty of equip., storage, \$275. Stoeber, 256-2439 after 5:30.

TOY POODLES, SILVER, male & female, AKC reg., very small. Shipley, 298-2433.

'66 AVION travel trailer, many extras, sleeps four, AM-FM radio, cost \$6700, sell for \$4995. Burgess, 256-3516 from 8:30-5 p.m.

CROSLY REFRIGERATOR, no auto. defrost, \$20 or best offer. Kelly, 298-5665.

16" BOY'S bicycle, \$8; baby bed, \$8; 1-spd. blender, \$3; drafting table, \$10. Childers, 877-2795.

DRILL PRESS w/motor & floor stand. \$90. Puariea, 299-6377.

FREE KITTENS, black & gray, 6 wks. old, ready to take home. Lynes, 268-0144.

GREEN antique bedroom suite w/springs & mattress, \$50. Dahney, 296-5067.

REFRIGERATED air conditioner, used in conjunction w/central heating system, 2-ton capacity, \$150. Stewart, 256-9290 after 5.

RUGS: 9'x12' oval, braided, \$10; 6'x9' nylon, \$8; 2'x16' nylon runner, \$3. Long, 296-5248.

TROPICAL FISH: mature Blue Acaras & Firemouths, 75c, young Guppies, 5 for 50c, bearing female Guppies, 15c. Crites, 298-6397.

13" WHEEL covers, set of four from '66 Corvair Monza, \$5 or best offer. Clark, 299-4819.

'62 MOTORCYCLE, Harley Sprint, 250cc, \$250. Sinerros, 344-7143.

BICYCLE, 20" convertible to boy's or girl's, \$16. Coleman, 299-2377.

PAIR of Basset Hounds, AKC reg., age 5 & 6. Dickerson, 299-3449.

MACGREGOR D-X tourney (proline) irons, 3-9 plus wedge & bag, below wholesale at \$45. Halpin, 299-7710.

REGISTERED 2-yr-old Beagle & dog house, desire home in country for this dog. Robertson, 298-7167 after 5:30.

AIR CONDITIONER, refrigerated, 6000 BTU, \$75; oak swivel chair, \$10. Cuderman, 299-6746.

9" SOUTH BEND lathe w/compound rest & reversing motor, \$200. Hill, 243-3493.

MCCULLOCH chain saws, old gear drive model runs, cuts, \$45; 3-yr. old lightweight model, \$50. Ernst, 344-8694.

GIRL'S 24" bicycle, \$11; Eldon 1/32nd scale car race set, \$6. Driver, 299-2063.

STUDIO COUCH, black-brown tweed, makes into 2 twin or 1 dbl. bed, \$30; bicycle, girl's 26" Schwinn racer, \$20. Calkins, 344-5914.

MEMBERSHIP Yucca Flying Club, Cessna 182, 225 hrs since Chrome major. Perkins, 298-4546.

WASHER & DRYER, Speed Queen auto. elec., white matching pair, complete w/hoses, best offer. Leeman, 299-9149.

REEL TYPE Montgomery Ward lawn mower, used 4 1/2 hrs., EZ-O-Matic or manual clutch, \$80, retails at \$112. Derrick, 256-0204.

COMPLETE Corvair engine, 4-speed trans. and transaxle, \$165. Snelling, 268-5895.

WATER SKIS, 5' Lampro, for children, beginners, \$10; prop 10 3/8 by 11 1/2, fits Johnson, Evinrude, Wards, \$5. Blaine, 299-1036.

CAMERA, Argus 35mm w/carrying case & flash attach., \$25; clarinet, \$50. Summer, 299-1912.

LIBERTY NICKELS, 50c each; 1842 Irge cent, \$5, or trade for other coins. Flowers, 282-3458.

14' BOAT, 35 hp electric start motor, trailer w/winch & extras. Henry, 282-3458.

3-PC. SECTIONAL; rd. kitchen table w/4 swivel chairs; HO gauge train set on 4 x 8 table, scenery, etc.; men's ice skates, size 12. Meidal, 255-6690.

REMINGTON portable typewriter, \$25; Kenmore auto. washer (needs drain hose), \$20; Kenmore portable top loading dishwasher, \$50. Horner, 282-3697.

3-YEAR-OLD filly, good blood lines, excellent conformation. Tucker, 877-1140.

FRIGIDAIRE electric stove, 30" wide, \$85; twin size bed w/mattress, \$15. Uhler, 299-8271.

GE refrigerator-freezer, 9.3 cu. ft., \$50 or make offer. Class, 298-6062.

2 REG. quarter horse mares, show proven, western pleasure, poles, barrels, halter. Youth saddle, \$20; wooden desk, \$10. Bassett, 898-1840.

OAK FRAMED, nautyhyde, western style platform rocker, \$35. Hiller, 296-5059.

FENCE CHARGER; 6 hp centrifugal 3" irrigation pump. Cooper, 877-4674.

SOLID MAPLE chest of drawers, painted white, \$15; Colt .32 auto. model M. Carter, 298-0945.

DINETTE SET, table, 3'x4' & 6 chairs, extra 12" leaf, gray formica top w/black metal legs. Dauphinee, 255-6367.

SLIDING GLASS shower enclosure for tub, \$12.50; Jag 4-spd. transmission completely overhauled, \$45; 3.4 or 3.8 service manual, \$5. Matthews, 636-2370.

CAMERA & Projector: Revere camera model 84 std. 8 w/3 turret lenses; Revere projector model 85 std. 8 w/F1.6 lens, \$50 for both. Bruce, 299-2542.

REAL ESTATE

LOT in city, 60' x 160', located on 126 Hilton Ave. NW, valued at \$2400, sell for \$1600 cash, city utilities nearby, R-4 zone, make offer. Chavez, 243-6111.

LOT in Glenwood Hills, 80 x 140, selling for \$3250, terms. Fox, 299-9031.

MOSSMAN 4-bdr., 3 baths, clean, recently painted, Montgomery, Cleveland, Del Norte schools, landscaped yard, trees, 6600 Mossman Pl. NE. McKinley, 268-4779.

MT. HOME off Highway 10, North, small house on 1/2 acre, quiet, restricted area, community water. DeLong, 282-5181.

3-BDR. MOUNTAIN HOME, 1 3/4 bath, fp, electric kitchen, attached garage, 1/2 acre, Sandia Knolls, off Frost Rd. Miller, 282-3168.

3 ACRES on Hwy. 47 in Peralta. Davis, 636-2874 or 268-1206.

4-BDR., ASHCRAFT buff brick, 2 1/2 baths, den w/ fp, carpeting & drapes, covered patio, 5/2% loan, \$36,000. Eberhart, 268-6943.

2-BDR. in SW valley, wb-fp, attached garage, on 3/4 acre, will trade for home near downtown Albuquerque or sell. Metoyer, 2329 Pajarito Rd. SW, 877-1893 from 10-5 p.m.

3-BDR. BRICK, 1/4 acre landscaped, sprinklers, covered patio, gas barbecue, fully carpeted, draped, paneling, appliances, Annunciation Parish, Sandia High. Seligman 298-1993.

CARS & TRUCKS

'26 CHEV. sedan delivery, rare model, new tires, mechanically sound. Levesque, 299-1213.

'62 CORVAIR PARTS or will sell as is for \$70. Morgan, 298-7228.

'63 CHEV. 4-dr., AC, R&H, equip. w/Hurst shift & OD. Padilla, 268-6110 after 5.

'62 RAMBLER 4-dr. V8, air, PS, PB, AT, 43,000 miles, \$650. Smith, 296-1049.

'64 CHEVELLE sports coupe, V8, AT, radio, new tires \$1350. Coriz, 855-9331 after 5:30.

'47 CHEVROLET coupe body & tires good, engine needs overhaul, best offer. Spacer, 299-0211 after 5:30.

'67 MGB ROADSTER, wire wheels, \$1975. Cota, 344-4213.

'34 NASH sedan, 31,000 actual miles, all original, \$1250. Longfellow, 299-7062.

'61 CORVETTE w/soft top, 4-spd, 327 cu., 375 hp engine, 60 over J. E. 14:1 compression pistons, completely balanced. Phillely, 296-5298.

'60 FORD original owner, \$250. Parker, 299-0289.

'64 DODGE DART 4-dr.; '62 Ford pickup w/camper shell. Emery, 299-1675.

'50 PONTIAC, \$50. Fischer, 298-9315.

'62 BUICK Inivita 4-dr. HT. factory air, PS, PB, PS, R&H, white over gold, \$850. Trump, 299-5162.

'65 JETSTAR I Oldsmobile, 4-spd., loaded, \$2000. Silva, 298-0719 after 5.

'53 FORD V8, original owner & motor, \$125. Wenz, 299-5488.

'67 PONTIAC GTO, AT, 400 cu. in. engine, wide ovals, rally clock. Cupp, 299-8724.

'64 FORD 1/2-ton, 114 wb, V8, 4-spd., PT, increased cooling, overloads, R&H, extras, \$1150. Kociscin, 298-8845.

'68 CAMARO, 327, AC, 4-spd., 3500 miles, \$850 off list, consider older car or truck as partial payment. Taylor, 296-5665.

'56 PICKUP CHEV., 4-spd., 6-cyl., Positraction, 2 extra tires & wheels, \$325. Mayhew, 296-2100 after 5.

'65 GMC 3/4 ton chassis-mounted, walk-through open-road camper, new tires, 4-spd., \$3000. Stevens, 298-5737.

'64 CHEVY pickup, 6-cyl., 3-spd. can accept small trade, \$1095. Lotz, 299-2804.

'56 GMC pickup, 1/2-ton, 4-spd. R&H, \$250. Bosque Farms. Street, 636-2275.

'64 GRAND PRIX; '65 DODGE Dart GT; '52 Chev. passenger. Hindi, 299-8996 after 5.

'61 FALCON 4-dr. station wagon, R&H, one owner, 44,000 miles, \$450. Kopp, 296-3350 after 5:30.

WANTED

TO RENT furnished house or apt. for summer staff member, family of 4, Aug. 1-28, Heights area preferred. Moss, 298-2643.

PRACTICE PIANO. Houston, 255-4658.

HAND MOWER, narrow reel type w/rubber tires, good condition, grass catcher if available. Leeman, 299-9149.

FM tuner, monophonic for old amplifier. Swain, 265-0098.

OLD 45 R.P.M. popular records. O'Bryant, 268-9049.

RIDE from UNM to Sandia daily following 7-8 a.m. class during summer session. Mikkelsen, 268-1485.

SPEEDOMETER head for '59 Chevrolet. Leyba, 344-6928.



SWIM SUITS and leisure-time fashions will be modeled at the Coronado Club during luncheon Monday, May 20, by Hazlet Edmonds (3421), left, and Maureen Cooper. This picture is also a reminder that the grand opening of the swimming season will be celebrated at the Club's twin pools Thursday, May 30.

Slovak Festival, Gala Swim Season Opening Scheduled at Coronado Club

The Slovak Festival next weekend, opening of the twin pools May 30, three swinging social hours, a fashion show and a number of group activities lead the Coronado Club calendar for the next couple of weeks.

Membership in the Coronado Club has never been more valuable—for instance, a year 'round member can buy a family season swim ticket for \$5. Compare this with the \$28 cost of a family swim ticket for a member who joins only for the swim season.

However, there is more to Club membership than economics. Several visitors in Albuquerque recently remarked on the attractiveness of the facility. It compares favorably with any recreation club facility anywhere. Redecorated, remodelled, newly refurbished and with the patio area a lush green, the physical facility has never been in better shape.

* * *

Slovak Festival

The MBC Trio returns to the Coronado Club bandstand Saturday, May 25, to polka pace the Slovak Festival. The Club's kitchen staff will go all out for a spread of classic German food—red cabbage, pigs knuckles, deviled eggs, bratwurst and apple strudel among the favorites. All this, plus free refreshments will make it a memorable evening. Make your reservations (\$3.50 for members, \$4 guests) before 9 p.m. next Friday. The fun starts at 6 p.m.

* * *

Swim Season Starts

Grand opening of the Coronado Club twin pools is set for 11 a.m. Thursday, May 30, Memorial Day holiday. The first day of swimming is free and refreshments will be available at reduced prices. Mike Michnovicz (2555) and accordion will entertain from 2 until 5 p.m. Since that Thursday is not a school holiday, adults will have the pools and patio area to themselves until after 3 p.m. The festivity continues until 6:30.

A new snack bar will be operating for the coming season, and a facility for checking clothing will have an attendant on duty during the hours of swimming. The pool-patio area has been renovated with many small improvements added. Coronado Club board member Jim Kelly (3112), responsible for swimming, is anticipating an outstanding season.

Schedules of swim classes are available at the Club office along with information about the Coronado Club aquatics program for youngsters. Season tickets are now on sale.

* * *

Luncheon Fashion Show

A collection of swimwear and leisure-time fashions will be modeled during the lunch hour Monday, May 20. Norma Manson of Sears will be moderator. Models will include Hazlet Edmonds (3421).

Sandia Safety Signals

Eyes Play Tricks

At night you can see an unexpected object only about half as far distant as you can see an expected one. Thus, you can see your own driveway much sooner than something you don't expect to see, and the unexpected could be a rock, a dog, a person. Studies show that the faster you drive at night the less far ahead you can see. Actual tests show that a driver doing 20 mph can see and identify objects 80 feet farther away than a driver going 60 mph. SLOW DOWN!

Built-In Warnings

Department of Transportation standards require tread-wear indicators to be molded into every passenger car tire manufactured after Aug. 1. The tread-wear indicator is a molded-in bald spot which runs across the tire tread when there's 1/16 of an inch of tread left. The bald spot signals it's time to replace the tire because 90 percent of all fire failures occur in the last 10 percent of a tire's life.

Sandia Participating

SNAP 19 Nuclear Generator Set For Launch Aboard Satellite

Two SNAP-19 nuclear generators developed under Sandia's technical direction and safety evaluation support will be aboard a NASA weather satellite scheduled to be launched this month from Vandenberg AFB.

The Nimbus-B, the third advanced meteorological satellite to be launched by NASA, will mark the first use of a nuclear power system on a NASA spacecraft. However, systems of this type have been used on Navy navigational satellites.

Primary objective of the 1361-pound spacecraft is to explore, develop and apply space technology to provide an expanding capability for meteorological observations leading to a better understanding of weather processes and improved weather prediction.

SNAP-19, developed as part of the AEC's Systems for Nuclear Auxiliary Power (SNAP) program, will supplement solar power on the satellite. Its use is experimental to assess the applicability of the nuclear power source to long-life meteorological satellites. Each generator weighs about 28 pounds and furnishes up to 25 watts of power.

The SNAP-19 has been developed and

produced by three prime contractors under supervision of the AEC's Albuquerque Operations Office, largely through its Sandia Area Office. Martin Marietta Corporation, Nuclear Division, designed, developed and fabricated the SNAP-19 generators. Mound Laboratory, operated by Monsanto Research Corporation, fabricated the raw fuel into final fuel form and encapsulated it. Sandia's Aero Projects organization 9300 was also a major contributor.

Space Isotope Power Department 9330 assumed technical direction of SNAP-19 shortly after the contract administration and technical administration of AEC's program to develop radioisotope fueled power sources for space missions was transferred from AEC New York Operations Office to Albuquerque Operations two years ago.

Aerospace Nuclear Safety Department 9310 provided support to Martin Marietta in conducting safety studies on the SNAP-19 as part of the Laboratory's responsibilities in the safety evaluation program for SNAP units.

Sandians at Vandenberg AFB for the launch included A. J. Clark, Jr. (9330), R. J. Luikens (9331), R. E. Berry (9312), R. E. Smith (9311) and D. E. Randall (9314).

Take Note

Before the fishing season opened, 12 Department 9310 employees completed an informal, noon-hour class on fly tying and fly fishing. The 16-session course was initiated by Sam McAlees (9314) in mid-February after he had received several requests from co-workers for tips on making fishing flies. Because of the interest in his hobby, Sam conducted classes for the employees in 9310 for about half an hour during lunch periods on Tuesdays and Thursdays.

The 14-topic course outlined included fly nomenclature, mechanics of fly tying, knots and leaders and fly casting. Following the completion of the course, the students arranged an appreciation luncheon for Sam and presented him with a hat decorated with 12 handmade flies, one from each participant. Some flies were purposefully made to violate principles of good fly design, such as hooks facing the wrong direction. The students are now eager to try their flies and their fly-casting techniques on the discerning eyes of trout—the real test of their skills.

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W. G. Funk, manager of Employment Department 3250, represented the Albuquerque Human Resources Council at the Conference for Leaders of Local Voluntary Councils on Equal Employment Opportunity in Tulsa, Okla., May 8-9.

The councils are voluntary organizations in over 80 major cities set up to promote equal employment opportunities, training and youth motivation. Membership is composed primarily of business, government and industrial employers of the communities.

Social Hours

Tonight, Tommy Kelly's combo will make the happy music while the southern fried chicken buffet is served. The buffet costs \$1.25 for members, \$1 for kids.

On Friday, May 24, Sol Chavez will make the mood music for the Mexican food buffet.

For the end-of-the-month social hour, May 31, the famous chuckwagon roast beef will be spread while Bud Fisher's group is on the bandstand. The buffet costs \$1.75 for adults, \$1.50 for children.

Pat Reich and piano will entertain in the main lounge during the social hours this month.

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Organizations Elect

New officers for the Coronado Ski Club and the Coronado Bowling Club were elected recently.

Bill Stevens heads the skiing group as president. Jim Griscom (2453) is vice president; Jim Rhodes (9423) is treasurer and Merry Campbell (AEC) is secretary.

Bowling Club president is John Nakayama (1522). Other officers include Dick Demmel (4152), vice president; Jake Gonzales (4251), treasurer; and Alice Woodley (AEC), secretary.



SAM McALEES and hat bedecked with students' flies.

The 11th annual Rio Grande White Water Boat Race will be held Sunday near Pilar, N. M. Several Sandia kayak and rubber raft enthusiasts usually participate while other employees cheer them on from the river bank.

The race starts at 1 p.m. one-half mile south of Pilar and ends 4.4 miles downstream at the Taos-Rio Arriba County line. Since U. S. Highway 64 follows the river along this section, the race can easily be followed from the shore.

All contestants must be over 21, sign a release, wear U. S. Coast Guard-approved vest-type life jackets, and have made at least one practice run on the course.

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A total of 74 two-man teams participated in the Sandia Employees Golf Association's (SEGA) team event at Arroyo del Oso Golf Course May 11. Teams were divided into five flights according to team total handicap.

Winners of the flights were: First Flight (low handicap)—three-way tie team net sum of 147—Jim Leonard (9331) and Ken Flynn (8159), Wendell Nelson (4137) and Larry Woodard (2211), and Will Rappleyea (4254) and Art Kraft (4254); Second Flight—with a team net score of 150—Ron Andreas (5621) and Jim Rogers (1427); Third Flight—with the tournament's best team net sum score of 141—Jack Reynolds (4372) and Don Hosterman (1623); Fourth Flight—with a team net sum score of 142—Si Simon (2213) and Ray Rozelle (2213); Fifth Flight—with a team net sum score of 147—Preston Herrington (9227) and Wes Pfanner (9226).

Jim Leonard (9331) put together a pair of 38's for a 76 to take low gross honors. Larry Posey (7113) won the low net honors with a 68.