

JIM WALSTON of Technical Art Division 3155 is the artist whose work appear in a Bicentennial Calendar. See page 7.

# **LAB NEWS**

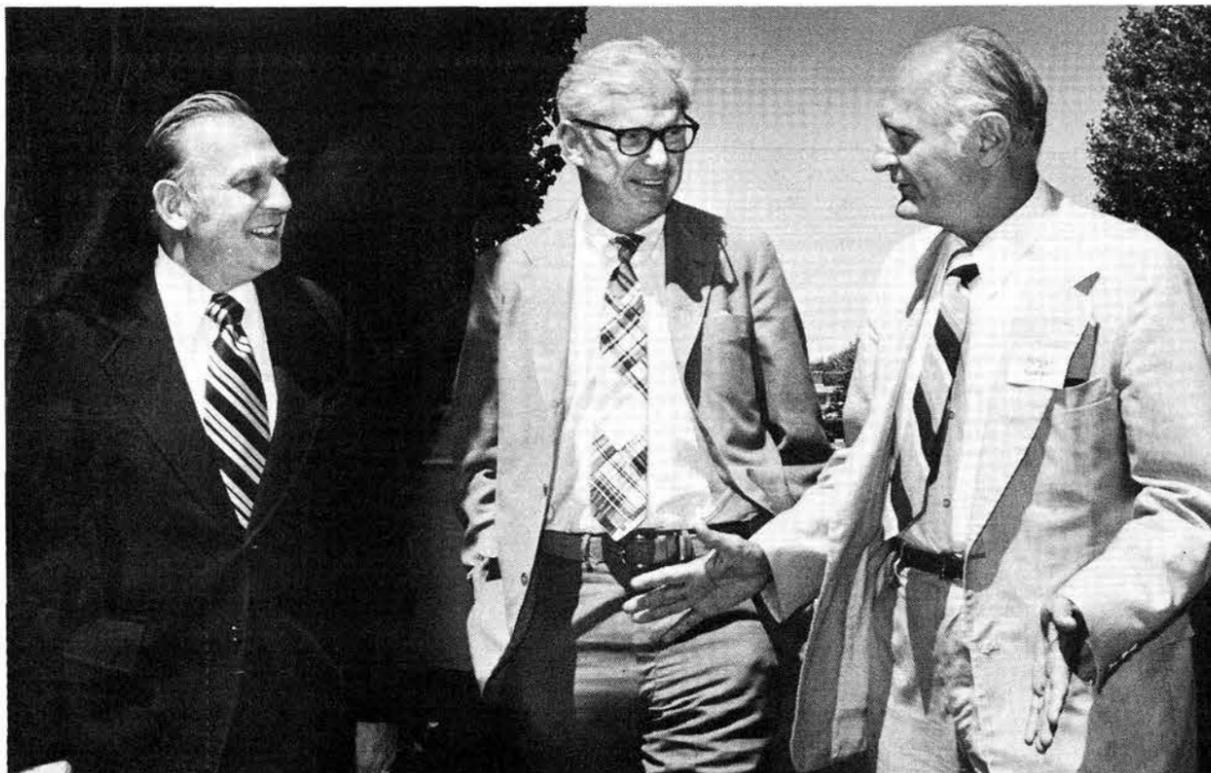
VOL. 27, NO. 16

AUGUST 8, 1975

SANDIA LABORATORIES • ALBUQUERQUE NEW MEXICO • LIVERMORE CALIFORNIA • TONOPAH NEVADA

Sandia Livermore Is Tech Manager

## Labs' Area III Site of New Solar Center



ERDA ADMINISTRATOR Robert Seamans, center, visited Sandia recently for briefings on Labs programs and talks with Herman Roser, ERDA/ALO manager, left, and Morgan Sparks, Sandia Laboratories president.

As announced last week by ERDA Administrator Robert Seamans, a solar test facility is to be constructed in Sandia Albuquerque's Area III. The new five-megawatt thermal test facility is an important part of the nation's high temperature solar research, development, and demonstration program. The national program calls for a pilot plant which will produce 10 megawatts of electrical energy (30-50 megawatts thermal) to be operational in 1980. As a necessary step toward that demonstration, this new facility will test the components of the 10-megawatt electrical pilot plant before final design freeze.

The Lab's role in the nation's Solar Energy Program has been expanded by the designation of Sandia Livermore as technical manager for the Central Solar Receiver Project. This assignment is in addition to existing work in the solar total energy program being done by Advanced Energy Projects Department 5710. Livermore will provide the technical management for the contractors selected for the 10-megawatt electrical plant demonstration and will play a

*(Continued on Page Three)*

## Gen. Bratton New DMA Director

Brig. Gen. Joseph Bratton (U.S. Army), who has been Executive to the Supreme Allied Commander, Europe, since January 1975, has been appointed Director of ERDA's Division of Military Application (DMA), effective Sept. 22. Gen. Bratton succeeds Maj. Gen. Ernest Graves who is being reassigned by the Department of the Army.

In his new position, Gen. Bratton will be responsible for programs of research, development, testing, production, transportation, storage, and readiness assurance of nuclear weapons; maintaining liaison between ERDA and the Department of Defense on nuclear weapons matters; and administering ERDA activities under international agreements for cooperation involving nuclear weapons.

## 'Hydrogen Getter' Awarded Patent

ERDA has been awarded a patent for an organic "hydrogen getter" material invented by Robert Courtney (5811), Larry Harrah (5811) and Rip Anderson (5813).

The material has the ability to irreversibly absorb molecular hydrogen or its isotopes either in a vacuum or in the presence of air or other gases. The grey powder absorbs hydrogen the way desiccants absorb moisture, and it may be packaged similarly or prepared in pellets.

The material is made with an organic derivative of acetylene, DPPE, and a precious metal catalyst. The organic material is coated onto the catalyst from the melt (80°C), and the resulting cake ground to the desired particle size.

Primary use of the material is in closed containers where the presence of molecular hydrogen could present an explosive or overpressure hazard. It is also useful in electronic packages and in batteries where the corrosive qualities of hydrogen are undesirable. In particular, mercury batteries can be constructed which do not evolve hydrogen during use — a current problem with batteries in heart pacemakers.

Division 5811 is now supplying the material in developmental quantities for some weapon system applications.

## Retiring



George Elliott (4251)



Kelly Montoya (2630), left, and Ralph Bonner (4213).

## Supervisory Appointments

**RALPH BONNER** to supervisor of Benefits Planning and Administration Division 4213, effective July 16.

Since joining the Laboratories in January 1967 as a staff member with the auditing organization Ralph has worked in Employee Benefits division and, for the past year, has been assigned to the 4010 Management Staff. He had worked as an auditor for ACF Industries for five years before coming to Sandia.

Ralph's BS and Masters degrees in accounting were earned at UNM. Off-the-job interests include tennis, skiing, running, and fishing. Ralph, his wife Patsy, and their two children live at 824 Toro SE.

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**KELLY MONTOYA** to manager of Computer Operations Department 2630, effective Aug. 1. A few months after joining the Labs in Aug. 1952 as a Grade 5 assembler, Kelly transferred to the Computing organization, where he worked as an operator and electronics technician while attending evening classes at UNM. He received his BS



Tim Taylor (1242)

degree in mathematics in 1955 and was promoted to staff member in the organization. He was named supervisor of a real-time computing division in 1965, then transferred to a field test computer support division for two and a half years. For the past 16 months he has been supervisor of Operating Systems Division 2641.

During WW II, Kelly served two years in the Navy and was recalled for a year and a half during the Korean conflict. He is a member of IEEE. He spends much of his spare time ranching near Eagle Nest and enjoys fishing and skiing.

Kelly and his wife Theresa have five children, three living at home, and one grandchild. They live at 344 Enchanted Valley Place NW.

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**TIM TAYLOR** to supervisor of Satellite Systems Development Division I 1242, effective Aug. 1. Since joining the Labs in August 1967 as a member of the Technical Development Program, Tim has worked on satellite programs — first in logic design and, for the past five years, in processing ground data. Tim worked for WE as a field technician, one and a half years at White Sands Missile Range and two years on Kwajalien, before coming to Sandia.

He received a BS in EE from NMSU and MS from UNM. Tim is a Captain in the Air National Guard. He enjoys playing tennis and gardening. Tim and his wife Erlinda, who is secretary for divisions 1813 and 1815, live at 1412 Lester NE.

## LAB NEWS

Published every other Friday

### SANDIA LABORATORIES

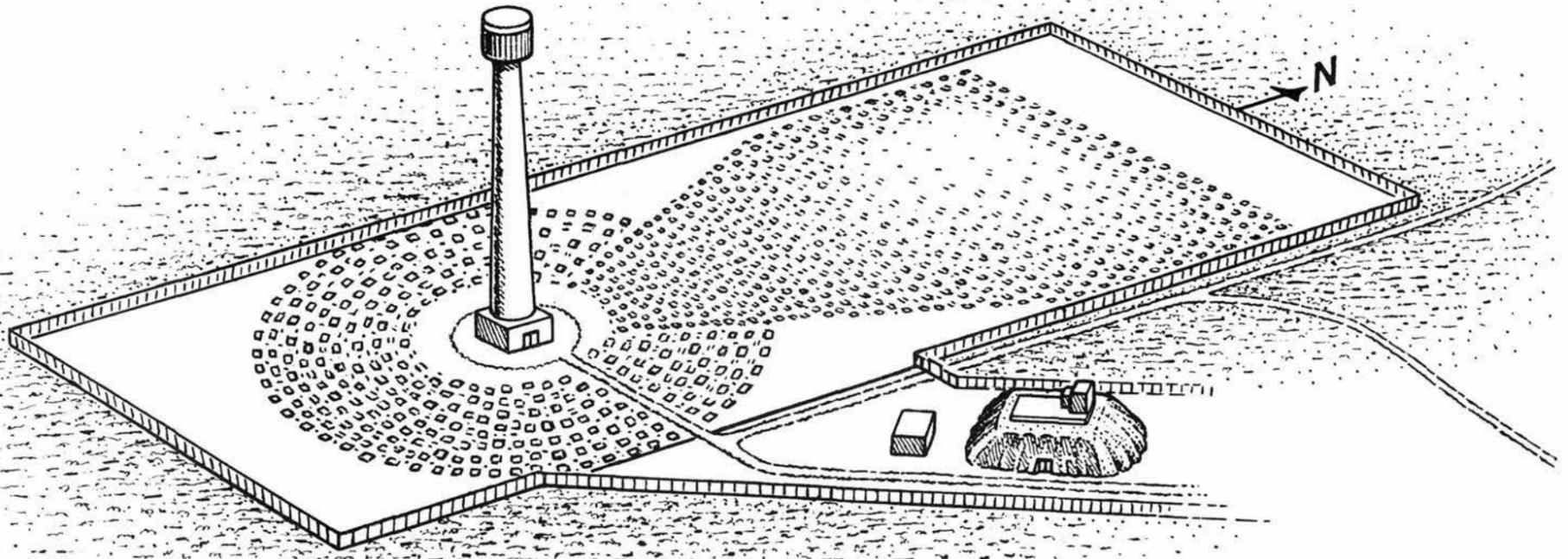
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Editorial offices in Albuquerque, N.M.  
Area 505 264-1053  
ZIP 87115

In Livermore Area 415 455-2111

john shunny is editor  
&  
don graham ass't. editor

bruce hawkinson & norma taylor write  
bill laskar does picture work  
gerse martinez lends a hand  
&  
lorena schneider reports on livermore



BASIC CONCEPT of the 5 MW thermal solar test facility shows fields of heliostats surrounding and north of a central receiver "boiler" atop the building/tower. Building complex is the existing radiant heat facility in Area III which will be used to

house the instrumentation necessary to document the performance of the many developmental designs to be tested at the new site. The facility is scheduled to be operational by late 1977.

*Continued from Page One* **NEW SOLAR CENTER**

leading role in establishing basic requirements for the five-megawatt thermal test facility.

The concept of the test facility is simple. A field of 200 or more nearly flat mirrors, each about 40 square meters in area, will reflect incident solar energy into a test prototype "central receiver" mounted atop a 45-55 metre (150-175 foot) tower. The mirrors, called heliostats, are controlled to follow the sun and to reflect its image to a stationary location atop the tower.

The radiant solar energy will heat a circulating fluid inside the receiver. The heated fluid (approximately 540°C) could be used to power a conventional steam turbine generator. Or it could be transferred to a thermal storage system from which energy could be drawn to power the turbine generator during evenings and cloudy periods. The heated fluid could also be used for other high

temperature process heat applications.

A new division, Solar Central Receiver Test Facility 9336, headed by John Otts, will operate the test facility. Art Clark's Systems Environmental Test Department 9330 has been working with Sandia Livermore to establish the operational and test requirements for Black and Veach, Consulting Engineers, who have been selected to do the conceptual design. Together, these groups will ensure that the facility is flexible enough to accommodate a wide range of solar hardware designs and, in the future, materials research.

At Sandia Livermore, Cliff Selvage, Information Systems Department 8180, is Project Manager, and Al Skinrood, Solar Energy Technology Division 8184, is Assistant Project Manager for the Central Solar Receiver Project. The Livermore group is now coordinating the work of four contractor

teams headed by Honeywell, Martin-Marietta, McDonnell-Douglas, and Boeing. Boeing is working only on the collector subsystem; each of the other teams is designing central receivers, heliostats, and energy storage systems. The sub-systems research hardware is being sized to be compatible for testing with the new five-megawatt facility.

For a few years at least, the five-megawatt test facility will be the largest solar test facility in the world. Currently, the largest such plant, a one-megawatt thermal furnace in France, attracts solar experts from around the world. For access by the solar community at large, the new site will be an open test facility; scientists and engineers from all over the world are expected to visit and use the site. Other Sandia groups, such as those doing research in heat transfer, high temperatures, and metallurgy will also make use of the site.

## Three Master's Degree Recipients

Three Livermore employees received Master of Science degrees recently through Sandia's Educational Aids Program — Bill Childers (8346) in EE from UC/Davis, Tom Devlin (8252) in environmental health sciences from UC/Berkeley, and Dewey Farmer (8433) in cybernetic systems from Cal. State/San Jose.

Bill's thesis is entitled "Microelectronic Component Reliability Evaluation Utilizing Fault-Tolerant Tester Design." At Sandia since 1961, Bill came to Livermore in 1968 and received his BS in mathematics from Cal.State/Hayward in 1971. He now works in the reliability organization.

Title of Tom's thesis is "Public Health Aspect of Tritium." Also with Sandia since 1961, Tom worked in health physics, receiving his BS in physics from the University of New Mexico in 1968. A year later he transferred to Livermore where he is in the environmental health group.

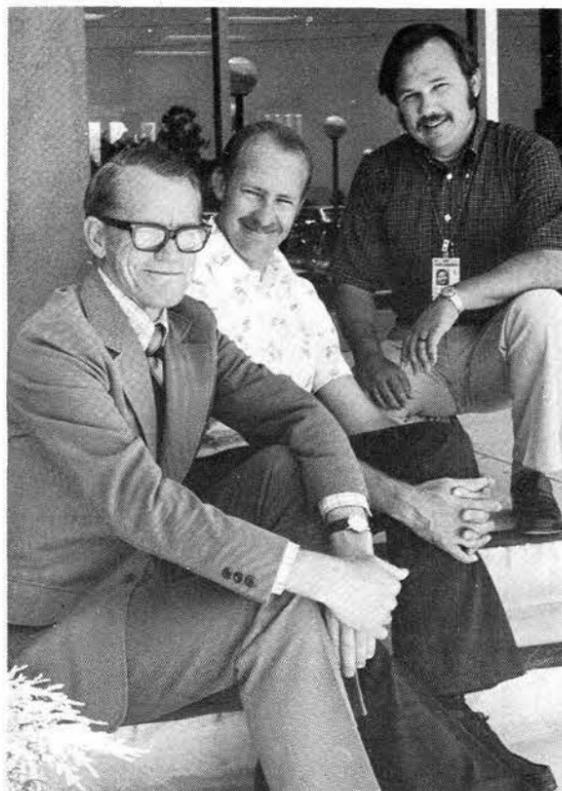
"Resistance to Change and Conversion to the Metric Measurement System" is the title of Dewey's thesis. He received his BS in industrial arts from the University of New Mexico in 1952, then joined Sandia in packaging engineering. Transferring to Livermore in 1959, he works in engineering systems and procedures.

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RECENT GRADUATES (from left) Dewey Farmer (8433), Tom Devlin (8252) and Bill Childers (8346).

## Jack Dini Elected to AES Board of Directors



At the annual meeting of the American Electroplaters' Society held last month in Toronto, Canada, Jack Dini (8312) was elected a member of the board of directors for a three-year term.

With Sandia since 1962, Jack has been responsible for research and development efforts in plating, electroforming, and printed circuits. He has written numerous technical reports and articles for scientific journals, and is a past recipient of the AES J.J.Hanney Memorial Paper Award.

In addition to serving in various AES capacities at both the local and national levels, he is a member of the American Society for Metals and a fellow of the Institute of Metal Finishing.



Shirley Dean (9000), left, and Marrian Salomon (2142).

## Sandians Named Business Women Of The Year

Two Sandians have been selected to represent their chapters of the American Business Women's Association (ABWA) in the national competition for American Business Woman of the Year. Shirley Dean, executive secretary and secretarial coordination supervisor for Organization 9000, is a member of El Encanto chapter of ABWA. Marrian Salomon, a computer programmer in Computer-Aided Design Division 2142, belongs to the Sando Chapter. Marrian has been at the Labs for 24 years and Shirley for 17 years. Each was elected for her achievements in business and education and her participation in ABWA and community activities.

ABWA has more than 80,000 active members throughout the U.S. and Puerto Rico, and one of its prime concerns is a national and local scholarship program. The national competition for Business Woman of the Year will be held in Cincinnati this fall.

## Secretarial Successes

Three Sandia secretaries, Ann Michele (3100/9700), Rachel Hill (5100), and June Rugh (5154/5), were delegates to the 30th Annual Convention of the National Secretaries Association (International) held last month in Montreal, Canada.

Ann was elected Director of NSA's Southwest District and will represent secretaries from 11 states, Guam, and Mexico on the international level. She will also set up conferences to serve the 5500 members in her District.

The 34,000 members of NSA work toward improving secretarial standards through education and professional development. One of the NSA programs involves recognition of outstanding secretaries. Sandia's latest addition to the ranks of Certified Professional Secretary is Barbara Champion (1241).

Congratulations, Ann and Barbara!

## An Update

# Metrication: Some Surprises

With or without Congressional mandate, metrication is moving ahead in the business and industry world. According to a recent issue of *Machine Design*, "most of the nation's largest manufacturing corporations have fairly well defined plans and formal schedules for converting to the metric system."

The auto industry is one of the metrication leaders. And that means some 40,000 supplier companies aren't far behind.

That's not surprising. What's surprising is that few of these suppliers are complaining about the switch. Many of them were ready to go metric before the automakers were.

That's not the only surprise either. While most U.S. companies were more than a little apprehensive about metrication, the shift has generally been easier — and more cost-effective — than originally estimated.

The ease is a tribute to the intelligence and resourcefulness of the American worker — engineer, designer, machinist, whatever. For the first few weeks of a typical conversion, drawings were cluttered with dual dimensioning — metric and conventional. But it didn't take long to go to single dimensioning with a conversion chart in the margin.

Next step was typically to phase out the conversion chart because no one needed it. Voila! A metric drawing.

"All across the country," says Sandia's metrication man Corry McDonald (9623), "the experience has been that adapting to the metric system is easier than predicted. People pick it up fast — it's simply an easier system to work with."

It's also true that most companies teach employees only what they need to know about metric. If an employee works only with linear measurements, there's no need for him or her to understand newtons per metre (or pounds per foot, for that matter).

The costs associated with metrication have not been as exorbitant as some critics predicted. In fact, the shift has often proved cost-effective. Says the article:

"In most cases, a short-term cost penalty is almost certain in implementing the conversion. But in the long term, substantial cost savings usually accrue because studies necessary for metric conversion identify opportunities to standardize, rationalize, and reduce the variety of a company's components and products and thus drastically cut costly inventory requirements."

Congress is expected to pass a bill authorizing a 10-year conversion period late this fall. But, like Sandia, few large organizations are waiting for the mandate.

## Bond Drive Achieves Goal

Charlie Bild (3600), chairman of this year's Savings Bond campaign, reports that the drive reached its goal of 90 percent participation.

At the start of the drive, 85 percent of employees were buying bonds at the rate of \$101,532 per month. That figure has now increased to \$113,676.

Other satisfying statistics are that 281 organizational units achieved 100 percent participation. Also, 38 additional units achieved 95 percent and 60 more showed 10 percent or greater improvement. Certificates recognizing these accomplishments will be distributed in the near future.

"I'm grateful to all those people who worked very hard to make the drive a success," Charlie says.



HOME AGAIN from the National Secretaries Association Convention in Montreal are (left to right) Jane Rugh, Rachel Hill, and Ann Michele. All returned with pleasant memories, Ann with a new post as Director of the Southwest District of NSA.

## Take Note

Each fall the Associated Students of the University of New Mexico (ASUNM) present a series of lectures on topics such as consumer protection, energy, politics and the humanities. Speakers lined up for next year include Will Rogers Jr., Eugene McCarthy, Truman Capote, Rep. Shirley Chisholm, and Georgia Lt. Gov. Lester Maddox.

ASUNM has established a Patron Program for these lectures. Contributions (tax deductible) of \$14 for one person or \$20 for family membership enable you as a Patron to receive free admission to all lectures, along with a letter about each speaker, the topic, time and place of the lecture. If you're interested send your name and address, number of persons in family and a check (payable to the ASUNM Speakers Committee) to Popejoy Hall, UNM, Albuquerque NM 87131.

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Larry Champine (5121) has been appointed chairman of the Special Interest Group on Numerical Mathematics for the Association for Computing Machinery. His two-year term began July 1.

### SCORE Demos Aug. 16

The young people setting up their 40 or so energy exhibits just west of the Exhibit Center will spend most of next week constructing and assembling and then, on Saturday, the 16th, will open their displays to the public, time 10 to 4. SCORE stands for Student Competition on Relevant Engineering, and the 300 participants at Sandia, who come from colleges around the country, are focusing on the category entitled Energy Resource Alternatives Competition. Many novel and ingenious energy schemes will be demonstrated, and Sandians and their families are especially welcomed to the exhibition.

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### Support Your Local Convention Center

The Greater Albuquerque Chamber of Commerce is looking for names of leaders of technical and professional societies who might help attract meetings and conferences to the Albuquerque Convention Center. All kinds of promotional assistance is available to such people who are interested in touting Albuquerque as the site of an upcoming convention — local, regional or national.

Employees who would like to know more about the convention support program may obtain a form from the LAB NEWS office to be mailed to the Chamber of Commerce.

### Balloon Fiesta Group Needs Volunteer Help

Albuquerque will host the 1975 World Hot Air Balloon Championships Oct. 3-12. More than 200 balloon teams from throughout the world are expected to compete.

Charlie Hines (3171) is serving as secretary-treasurer of the Mayor's Balloon Festival Committee. He reports that about 600 volunteers are needed to serve as contest officials, members of chase crews, safety officers, crowd control, etc. If you would like to help, call the Chamber of Commerce, 842-0220.



**SANDIANS IN RED SQUARE:** Standing (l to r), Woody Woodall (9623), Sol Chavez (3644), Dick Strome (3155), Stan De Vault (retired), and Lee Galbraith (2442). Kneeling are Jim Renken (5223) on the left, and Howard Seltzer (9651).

## Sandians Tour NE Europe and the USSR

Howard Seltzer (9651) helped organize a University of Albuquerque - sponsored tour of Northeastern Europe and the Soviet Union for three weeks during June and July. Other Sandians on the tour were: Woody Woodall (9623), Dodie McKelvey (9553), Jim Renken (5223), Jim Hoffman (5212), Lee Galbraith (2442), Dick Strome (3155), Sol Chavez (3644) and Stan DeVault (Ret.).

The group traveled by bus through Denmark, Sweden and Finland, spending a couple of days in each of the capitals. They entered the USSR from the Finnish border, where, according to Howard, the bus was nearly taken apart during the border search. "They even crawled beneath the bus and checked the undercarriage with mirrors."

The first Russian city on their itinerary was Leningrad. Expecting to see lots of glass and steel replacing the damage suffered in WW II, the visitors all commented on the rather shabby appearance of the city. "In fact," Jim Renken says, "my impressions of the Russian cities and of the people are of a general drabness. I wouldn't want to go back, but feel that everyone should see the country once — just to see how the system operates; it was an interesting and educational trip."

An Intourist guide was assigned to the group at the Russian border and stayed with them for the entire tour. Most of the Sandians agree that the guide — a young woman in her mid-20's — decidedly lacked a sense of humor, and didn't know exactly how to deal with a group of happy American tourists. Her standard answer to questions concerning wage scales, availability of food and consumer items was "it is sufficient."

Everyone seemed to enjoy Moscow; mornings were spent in guided tours and afternoons were free for striking off on their own.

A visit to the large, state-owned, GUM Department Store intrigued Howard and his wife, "Shopping is a nightmare," Howard says. "You stand in line to view whatever you're interested in, then make your selection and receive a ticket for it. Then you stand in another line to pay the central cashier and get your ticket validated. Then you return to the end of the original line to pick up your package. If you're going to make six purchases, you go through this procedure six times."

"We had heard before we left home that candy, chewing gum and panty hose were items appreciated by the Russians since they cannot accept money for gratuities," Howard says. "While we were in GUM's we checked prices on these items — a package of Wrigleys gum sells for \$4.50, and panty hose ran from \$12 to \$15 a pair."

Says Woody Woodall, "Russia wasn't fun; it was an experience." The fun parts of the trip for him were Paris, Copenhagen and Warsaw. Dick Strome enjoyed Stockholm and Warsaw.

Other highlights of the trip were crossing the Baltic Sea during the "midnight sun"; the 300 acres or so of exposition grounds outside Moscow, housing everything from chickens to cosmonaut exhibits; the visit to Lenin's tomb and the tour of the Kremlin; the electric subway system in Moscow — seven cents a ride and trains every three minutes; the more relaxed atmosphere of Poland; and the beauty of Berlin.

Dodie McKelvey described her feelings this way: "The tour was interesting and educational. The sharp contrasts between our government and the Soviet government come alive. I think we all came away with a greater appreciation of our own." •nt

# Speakers

A.K. Hays (5215) and G.C. Tisone (5212), "Collisional Deactivation of the 3427 Å Vibrational Band of the 3460-3015 Å Band System of I<sub>2</sub> by Various Inert Gases," Molecular Spectroscopy Symposium, June 16-20, Ohio State Univ., Columbus, Ohio.

W.C. Nickell (1812) and J.L. Todd (1741), "Effectiveness Evaluation — A Status Report"; J.W. Campbell and J.L. Todd (both 1741), "An Irradiated Fuel Bundle Counter"; R.E. Luna (1812) and I.G. Waddoups (1741), "Effects of Malevolent Dispersal of Plutonium," The Institute of Nuclear Materials Management 16th Annual meeting, June 18-20, New Orleans, La.

F.G. Blottner (5640), "Finite-Difference Solution of Incompressible, Two-Dimensional Slender Channel Flows," AIAA 2nd Computational Fluid Dynamics Conference, June 19-20, Hartford, Conn.

L.A. Bertram (2642), "Aerodynamics of Partially-Failed Buildings"; J.W. Reed (5644) and B.F. Blackwell (5628), "Some Climatological Estimates of Wind Power Availability"; J.W. Reed, "Wind Damage to Windows as Estimated from Explosion Tests," 2nd U.S. National Conference on Wind Engineering Research, June 23-25, Ft. Collins, Colo.

H.J. Rack (5832), "Fracture Toughness Phenomena in an Unaged Beta Titanium Alloy," Symposium on Micromechanical Modeling of Flow Fracture, June 23-25, Troy, N.Y.

H. T. McClelland and B.M. Butcher (both 5167), "Prediction of Porous Metal Response to an Applied Stress"; R.W. Rohde and T.V. Nordstrom (both 5832), "The Effect of Structure on the Dynamic Yielding of Iron," International Conference on Principles and Application High Energy Rate Metal-working, June 24-26, Denver, Colo.

E.E. Ritterbush (4212), "Dual Choice and Qualifications of HMOs: Current Status of Regulations and Implications for Health Plans," 25th annual Group Health Institute, June 23-25, Chicago, Ill.

J.M. Hueter (3131), "Solving Problems Creatively," annual meeting, Nevada State Association of Marriage and Family Counselors, May 12; and, "Creativity — Choice or Chance?" problem-solving workshop, National Annual Convention, American Society for Training and Development, May 21, Las Vegas, Nev.

J.D. Williams (2112), "Continuing Education — A Management Point of View"; H. R. Shelton and R.T.G. Lassiter (both 3132), "Individualizing Continuing Engineering Studies Through Use of Videotape Learning Packages," American Society for Engineering Education annual conference, June 16-19, Colorado State Univ., Fort Collins.

H.C. Monteith (9344), "Flying Saucers," June 3, Grant Jr. High science class; and "ESP Research in Russia, England and America," June 6, Rio Grande Lions Club, Albuquerque.

G.W. Hughes (1243), "The Metric System and the Citizen," June 3, Albuquerque Chapter, American Association of Retired People.

G.H. Miller (5225), "Applications of High Voltage Technology to Electron Beam Fusion," Westinghouse, June 19, Pittsburgh, Pa.

W.F. Chambers (5822), "An Electron Microprobe Study of the Homogeneity of Silicon-Germanium Alloys," Eighth Annual International Metallographic Convention, June 29, Minneapolis, Minn.

M.A. Duguay (5214), "Soft X-Ray Lasers Pumped by Photoionization," The Physics of Quantum Electronics Conference 1975, June 23-July 4, Santa Fe, N.M.

D. Smallwood (9332), "Time History Synthesis for Shock Testing on Shakers," and "Shock Testing on Shakers Using Digital Control and Shock Response Spectra," Seminar on Understanding Digital Control and Analysis in Vibration Test Systems, June 17-18, Goddard Space Flight Center, Greenbelt, Md., and July 22-23, The Jet Propulsion Laboratory, Pasadena, Calif.

J.G. Curro, E.A. Salazar (both 4811), and K.T. Gillen (5813), "Long Term Characteristics of Viton O-rings," ERDA Headquarters, July 7, Germantown, Md.

B.L. Gregory (2140), "Process Controls for Radiation-Hardened Aluminum Gate Bulk Silicon CMOS"; B.D. Shafer (2116), "Latch-Up Prevention in CMOS"; G.F. Derbenwick (2141) and B.L. Gregory, "Process Optimization of Radiation-Hardened CMOS Integrated Circuits"; F.M. Coppage (2144), "The Influence of Dosimetry on Damage Equivalence Ratios"; H.H. Sander (2144) and B.L. Gregory, "Unified Model of Damage Annealing in CMOS, From Freeze-In to Transient Annealing"; J.M. McKenzie and J.E. Lohkamp (both 2144), "Measurement of the Energy Dependence of Neutron Damage in Silicon Devices"; K.J. Soda (AFWL) and C.E. Barnes (5112),

# Jack Hansen Retires Aug. 31



Jack Hansen (4800) will retire Aug. 31 after 27 years at the Laboratories.

He joined Sandia in 1948 as a staff member in the production organization, became manager of Production Control Department in 1950, and Superintendent of Production in 1951. He was named Director of Development Shops in 1955. He became Director of Technical Services in 1971 and has headed the Property Management and Materials Directorate since 1973.

"After so many busy years," Jack says, "I'm looking forward to some travel and leisure. We will visit our son — he's on the staff of the Naval Research Laboratory in Washington — and our daughter in Chicago. She's associated with the Institute of Real Estate Management. Then we have to visit the family farm near Independence, Kans. We will continue to live in Albuquerque and stay active in community affairs."

Jack has been a member of the Albuquerque Chamber of Commerce for many years. He has held state and national offices in the American Red Cross.

"The Effect of Gamma Irradiation on Optical Isolators"; G.J. Lockwood (5226), G.H. Miller (5225) and J.A. Halbleib (5223), "Simultaneous Integral Measurement of Electron Energy and Charge Albedoes"; E.D. Graham (2112), L. Lopez (3612), T.E. Gerst and L.W. TenHaken (both 2112), "Radiation Effects on D-MOS High Frequency Devices"; E.F. Hartman and D.C. Evans (both 2144), "Electrical Pulse Burnout of Transistors in Intense Ionizing Radiation"; G.B. Krefft and W. Beezhold (both 5112), "Effect of Ionizing Radiation on Displacement Damage in Ion-Bombarded Single Crystal a-Al<sub>2</sub>O<sub>3</sub> and a-SiO<sub>2</sub>"; J.A. Halbeib and W.H. Vandevender (both 5223), "Coupled Electron/Photon Transport in Static External Magnetic Fields"; J.G. Fossum, G.F. Derbenwick (both 2141) and B.L. Gregory, "Design Optimization of Radiation-Hardened CMOS Integrated Circuits"; M.E. Daniel (2144), "Radiation Hardness of a High Speed ECL Microcircuit"; R.C. Hughes (5814), E.P. EerNisse and H.J. Stein (both 5112), "Hole Transport in MOS Oxides"; F.N. Coppage and J.H. Barnum (both 2144), "Radiation Effect Evaluation of 512-BIT PROMs From Two Manufacturers," IEEE Nuclear and Space Radiation Effects Conference, July 14-17, Humboldt State Univ., Arcata, Calif.

J.C. Crawford (2410), "Large Area Solid Target Neutron Source"; and A.J. Toepfer, T.H. Martin (both 5242), M.J. Clauser (5241), D.W. Swain (5242), and E.H. Beckner (5200), "Pulsed Neutron Sources for Fusion Reactor Materials Studies," International Conference on Radiation Test Facilities for the CTR Surface and Materials Program, July 15-18, Argonne, Ill.

R.C. Heckman (5842), "Determination of the Enthalpy and Specific Heat of a Nickel-Cobalt Steel to 2000 K," 30th Annual Calorimetry Conference, July 15-19, Seattle, Wash.

T.A. Green (5641), "Euler-Lagrange Optimization of Translational Factors for Low Energy Atom Atom Scattering," and "Potential Curves and Scattering Theory Matrix Elements for the Singlet Pi States of HeH<sup>+</sup>," IX International Conference on the Physics of Electronic and Atomic Collisions, July 24-30, Univ. of Washington, Seattle, Wash.

P.S. Peercy (5132), "Pressure Dependence of Inelastic Light Scattering from Soft Mode Systems," Invited talk at the Third International Conference on Light Scattering in Solids, July 25-30, Campinas, Brazil.

C.L. Olson (5241), "Charged Particle Acceleration in the Collective Fields of an Intense Electron Beam," Joint Colloquium, Radiation Technology Division of Plasma Physics Division, Naval Research Laboratory, June 4, Washington D.C.; and "Collective Ion Acceleration with Drifting Intense Relativistic E-Beams," Workshop on the Physics and Applications of Relativistic Electron Beams, Air Force Office of Scientific Research, June 5-6, Washington D.C.

C.E. Land (5133), "Optical and Electrooptic Properties of PLZT Ceramics," Gordon Research Conference on Electronic Materials, July 21-25, Plymouth, N.H.

C.M. Tapp (2430), "Design and Development of High Reliability Hybrid Microelectronics for ERDA

Applications," Reliability Technology for Cardiac Pacemakers, July 28-29, National Bureau of Standards, Washington, D.C.

D.M. Haaland (5824), "Triple Point Pressure of Carbon as Determined by Laser Heating," Twelfth Biennial Conference on Carbon, July 28-Aug. 1, Pittsburgh, Pa.

D. Emin (5155), "Interpretation of Experiments in Noncrystalline Solids," NATO Advanced Study Institute, July 31, Antwerp, Belgium.

C.R. Hills (5822) and H.J. Stein (5112), "The Microstructure of Xe Implanted GaAs," 32nd Annual Meeting of the Electron Microscopy Society of America, August 1975, Las Vegas, Nev.

W.E. Williamson (5625), "Minimum and Maximum Endurance Trajectories for Gliding Flight in a Horizontal Plane," AIAA 1975 Aircraft Systems and Technology Meeting, Aug. 4-7, Los Angeles.

H.H. Madden and J.E. Houston (both 5114), "The Effects of Errors on the Convergence of an Iterative Deconvolution Method"; J.F. Cuderman (1114), K.M. Gilbert, J.J. Hohlfelder (both 1112) and M.A. Palmer (5214), "High-Resolution X-Ray Photography of Laser-Produced Plasmas," Conference on Applications of X-Ray Analysis, Aug. 6-8, Denver, Colo.

R.W. Harrigan (5717), "Photochemical Solar Energy Conversion"; B.W. Marshall (5717), "Analysis of a Solar Total Energy System"; E.C. Boes (5717), "Estimating the Direct Component of Solar Radiation"; R.S. Rusk, G.W. Treadwell (both 5712), and W.H. McCulloch (1543), "Test Results from a Parabolic-Cylindrical Solar Collector"; M.W. Edensburn (5717) and G.E. Brandvold (5710), "Sandia Laboratories Energy System Simulation Computer Program"; M.W. Edensburn, "Performance Analysis of a Cylindrical Parabolic Focusing Collector and Comparison with Experimental Results"; M.W. Edensburn, "Sandia Laboratories Solar Energy Test Bed System Simulation"; R.P. Stromberg (5717), "Sandia Laboratories Solar Total Energy Program"; R.B. Pettit (5842) and R.R. Sowell (5834), "Solar Absorptance and Emittance Properties of Several Solar Coatings," International Solar Energy Society Annual Meeting, July 28-Aug. 1, Los Angeles, Calif.

## Congratulations

Mr. and Mrs. Jim Pierce (5442), a daughter, Tamara Jo, July 29.

## Sympathy

To Jim Dossey (4753) on the death of his father in Bonham, Texas.

To Gary McManis (4256) on the death of his father in Belen, July 24.

To Bob Stromberg (5717) on the death of his son John in Albuquerque Aug. 5.

## Walston Drawings Featured in Calendar

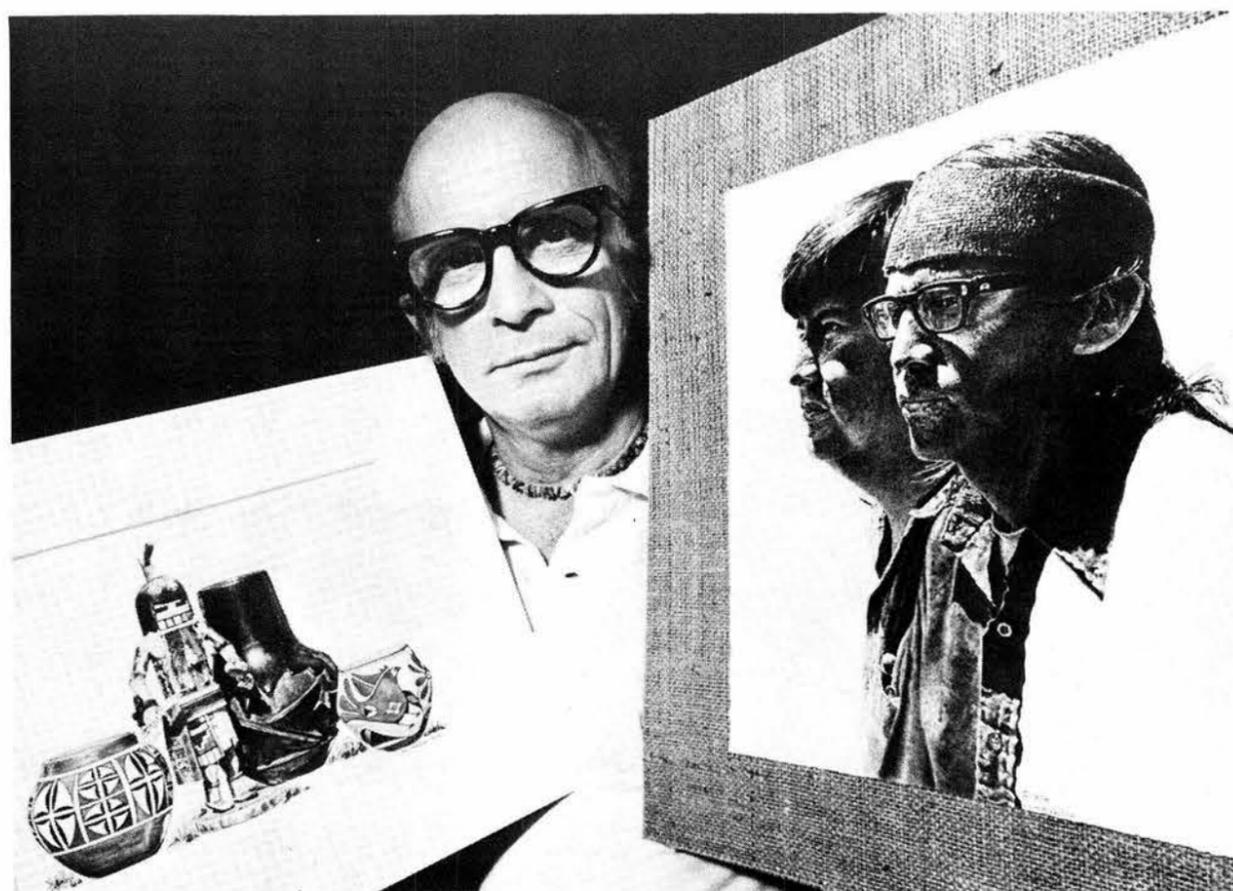
Have you ever spotted a Jim Walston (3155) drawing and thought about owning one? His pencil sketches of the weathered features of Indians from New Mexico are especially popular. Now you can acquire a dozen reproductions of some of his best work.

Each year Delta Delta Delta Sorority offers an art calendar for sale in support of their charitable projects. The Albuquerque Zoo has been the subject of previous calendars; for 1976, Jim Walston has done the New Mexico Bicentennial Calendar.

Jim has been working on the project since January and predicts that the calendar will be on sale by Aug. 15. The 12 drawings include many of his favorite Indian subjects plus a steam locomotive, soldiers at Fort Union, and a still life.

Revenue from calendar sales goes to Tri-Delta's support of those children's hospitals performing research on cancer in children and in oncology and hematology. In this area, contributions go to blood cancer research at Bernalillo County Medical Center. A portion also goes into Tri-Delta's scholarship program.

The calendar, sepia-printed on beige, textured paper, sells for \$2. Buy one, after Aug. 15, at: Brandywine Galleries Ltd., Kistler-Collister, Gifts Unusual-Winrock, La Hacienda-Old Town, Sheraton Old Town Inn, The Crafty Lady-Scottsdale Village and Museum of Albuquerque. Or you can order by mail with a check (\$2.25) to Delta Delta Delta, P.O. Box 14254, Albuquerque 87111.



JIM WALSTON (3155) with drawings for two pages of the New Mexico Bicentennial Calendar.

### Recreation Notes

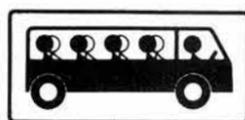
## FUN & GAMES

## Air Force COS To Talk Here



Gen. David Jones, Chief of Staff, U.S. Air Force, will be guest speaker at a dinner meeting of the Albuquerque Chapter of the Air Force Association Wednesday, Aug. 20, at the KAFB Officers Club East. All Sandians are invited, says Ken Sarason (1511), Association president.

The meeting will follow a social hour in the Mesa Lounge at 6:30 p.m. The roast turkey dinner costs \$4.50. Call 4-1346 or 4-2315 for reservations.



## Bus Notes

Private bus carriers can operate within the City (provided they meet requirements which are yet to be established). That's the word from City Legal and it's good news for Far East area residents and other Sandians who've been waiting for bus service for almost 2½ years.

Details are not yet worked out — so don't flood 4-RIDE with calls and don't wait for the bus at the corner Monday morning.

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The oldest axiom in the second oldest profession says: Facts can lie there for years but as soon as you publish them they change. Last issue we printed all the latest bus information. Fares hadn't changed in two years. But now both Mountain Bus and South Valley Bus fares are 75¢.

*Sandia Runners Ass'n.* — Farrell Perdreauxville (5722) is stepping pretty lively these days. In the last week he's come across two rattlers on the road network south of the gym, one alive and on the shoulder, the other on the road and quite dead. If you run where the tumbleweeds bloom, it might be well to give them a wide margin — a snake bite could spoil your entire run.

Winners: Henry Dodd (4751) with a time of 2 hours, 46 minutes in the Salt Lake City Marathon, finishing 12th, that's 26 of those 6 1/2 minute miles.

Road Runners next meet is Tuesday, Aug. 19 at Rio Grande Park, near Kit Carson and Rio Avenues at 6:15 p.m. Events for men, women, boys and girls will be run, and novice runners are especially welcomed.

*Sandia Bike Ass'n* — A word to those of you who ride your bike across the Los Altos bridge: Don't!

Instead, walk them across. Or run the very real risk of having the route closed to you, if not to all bikers.

*Women's Sandia Lab Bowling League* — Five women handicap teams are forming now. Bowl Thursday evenings, 6:30, at Holiday Bowl beginning Sept. 4. Contact Eva Franks (5725) 4-2653, or Roberta Chinn (4256) 4-8687, to be placed on a team. Retirees are eligible, and spouses of Sandia employees are eligible to substitute.

*Horseshoe Association* — Leo Bressan (9532) reports that dates for the summer singles and doubles tournaments have been set — Saturday, Aug. 16, for singles; Saturday, Aug. 23, for doubles, both at Los Altos Courts. All Sandians, ERDA people and retirees are eligible. Fee is \$1. Call Leo at 4-7933 to register.

*Flag Football* — Anyone interested in playing in the League is urged to contact Joe Maez (3617), 4-5689, or Ted Montoya (3621), 4-8892.

## Authors

R.A. Lefever (formerly 5154) and J. Matsko (3622), "Flame Fusion Growth of Chromic Oxide Crystals," Vol. 10, April 1975, MATERIALS RESEARCH BULLETIN.

I.J. Fritz and P.S. Peercy (both 5132), "Phenomenological Theory of the High-Pressure Structural Phase Transition in Paratellurite (TeO<sub>2</sub>)," Vol. 16, No. 10-11, SOLID STATE COMMUNICATIONS.

J.M. Peek (5641), "Metastable States Observable in the Mass Spectrum of H<sub>2</sub>," Vol. 8, No. 2, CHEMICAL PHYSICS.

H.O. Pierson (5834) and D.A. Northrop (5732), "Carbon-Felt, Carbon-Matrix Composites: Dependence of Thermal and Mechanical Properties on Fiber Precursor and Matrix Structure," Vol. 9, April 1975, JOURNAL OF COMPOSITE MATERIALS.

D.A. Benson (5167), "Stress-Generation and Unloading Properties of Pulse-Heated Porous Carbon Determined by a Side Gauging Technique," Vol. 46, No. 5, JOURNAL OF APPLIED PHYSICS.

J. Chang (5242), M.M. Widner (5241), G.W. Kuswa (Wash. D.C.), and G. Yonas (5240), "Irradiation of a Spherical Target by a Single Relativistic Electron Beam," Vol. 34, No. 20, PHYSICAL REVIEW LETTERS.

R.A. Graham (5131), "Piezoelectric Current from Shunted and Shorted Guard-Ring Quartz Gauges," Vol. 46, No. 5, JOURNAL OF APPLIED PHYSICS.

C.L. Olson (5241), "Theory of Ion Acceleration by Drifting Intense Relativistic Electron Beams. I. Theory," and "Theory of Ion Acceleration by Drifting Intense Relativistic Electron Beams. II. Comparison with Experiments," Vol. 18, No. 5, THE PHYSICS OF FLUIDS.

R.P. Wemple and C.J. Northrop, Jr. (both 5824), "High Pressure Differential Thermal Analysis of the Lanthanum Nickel-Hydrogen System," Vol. 12, No. 1, THERMOCHIMICA ACTA.

# MILEPOSTS

## LAB NEWS

August 1975



Clarence Arndt - 9471

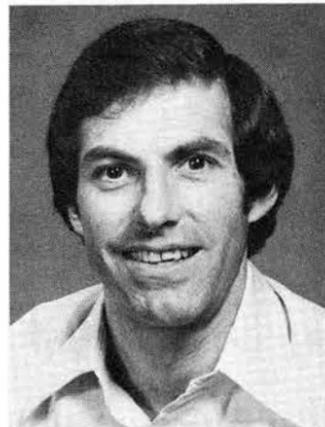


Gerry Nerton — 8323 15



Mary Wood - 9622

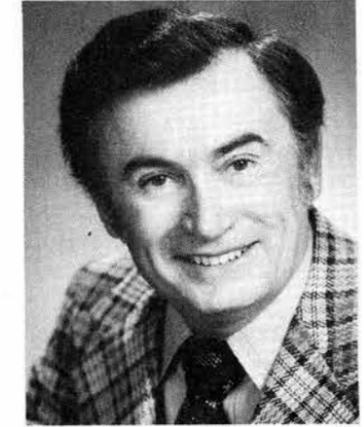
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Tom Plummer — 9742 10



Paul Plomp — 3646 10



Bill Lavinsky — 8423 10

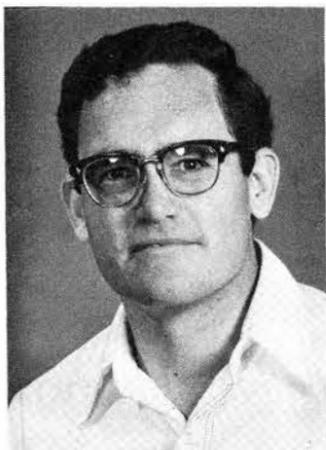


Joe Rivard — 5222 15



Richard Berg - 1739

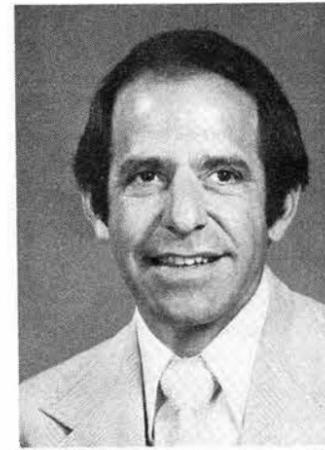
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Bob Benham — 9321 10



Richard Thompson — 9633 15



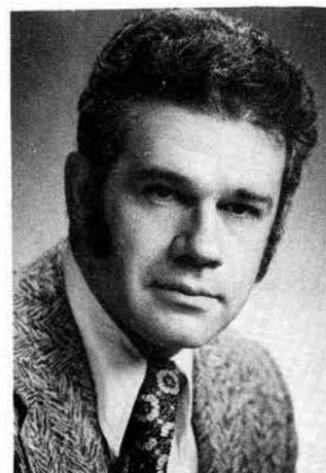
Ben Bader — 1537 20



Freddie Weber — 3150 15



Tom Workman — 2133 15



Frank Halasz — 8266 10

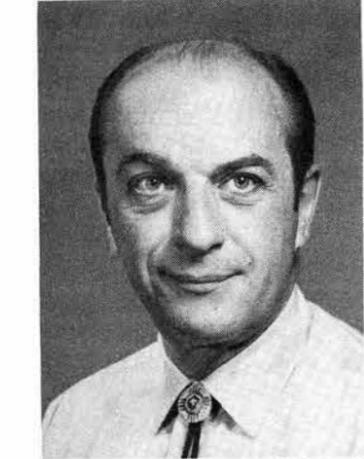


Robert Stewart - 3622 20



Joseph Maestas - 9715

25



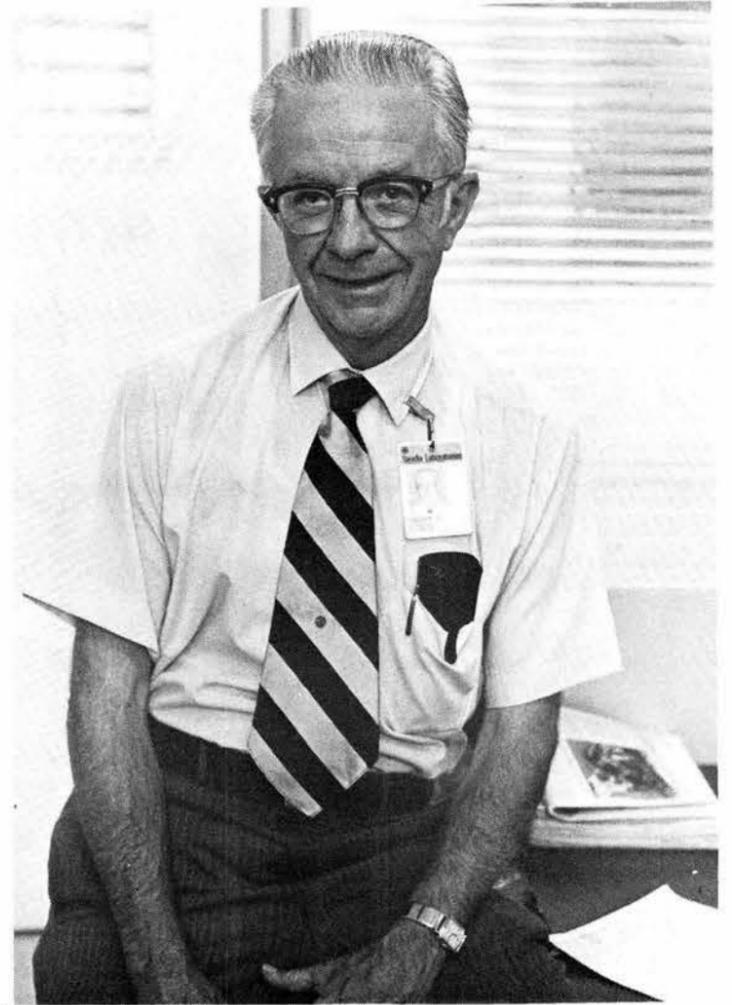
John Simchock — 9622 15



Robert Stewart — 9550 25



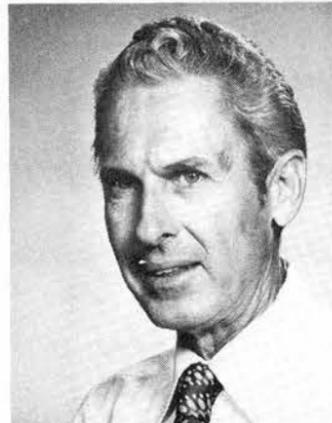
Donald Lewis — 2344 25



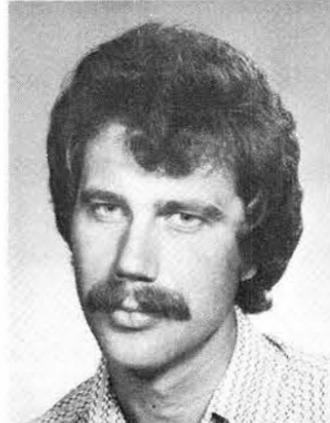
Harry U'Ren - 4183 25



Kenneth Paul — 4277 15



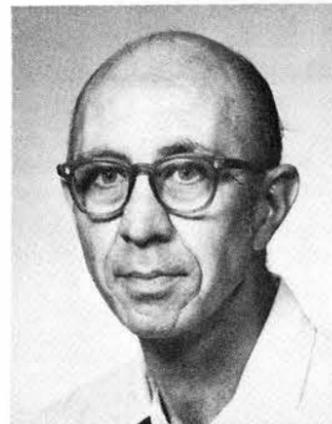
Eugene Emerson — 9623 20



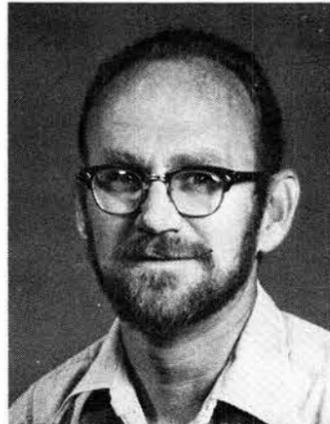
Jay Snelling — 5113 10



Doyle Morgan — 2314 15



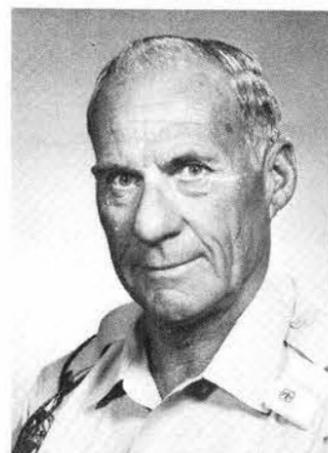
Francis Daut — 2434 25



George Stone — 5625 15



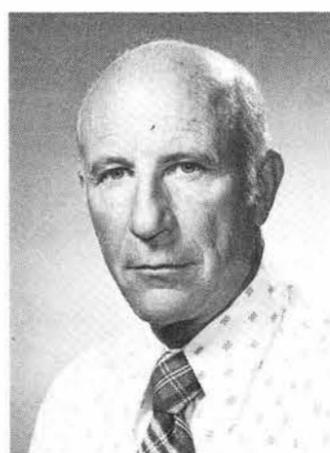
John Logan - 3144 25



Les Baumann — 9550 25



Gladys Olguin — 2632 20



Chester Weaver — 2522 25



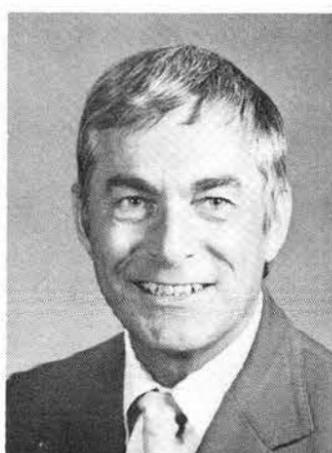
Maggie Wheeler — 9536 25



Karen Poor — 8320 15



Armen Meyers — 8413 15



Paul Syroid — 9513 25



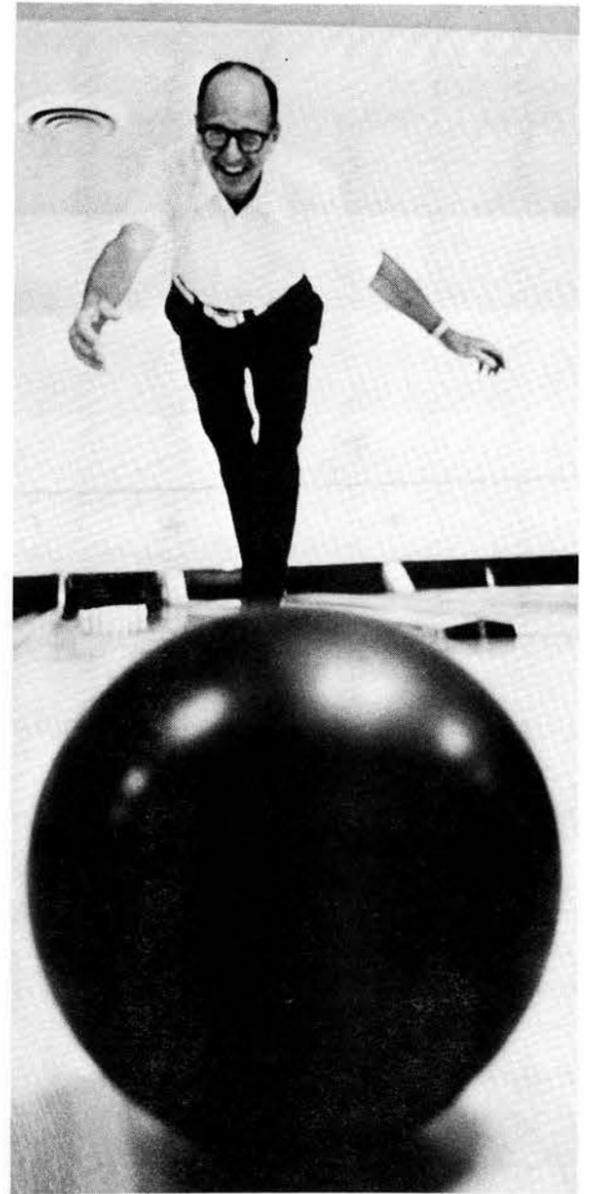
Pedro Ortiz - 9718 25



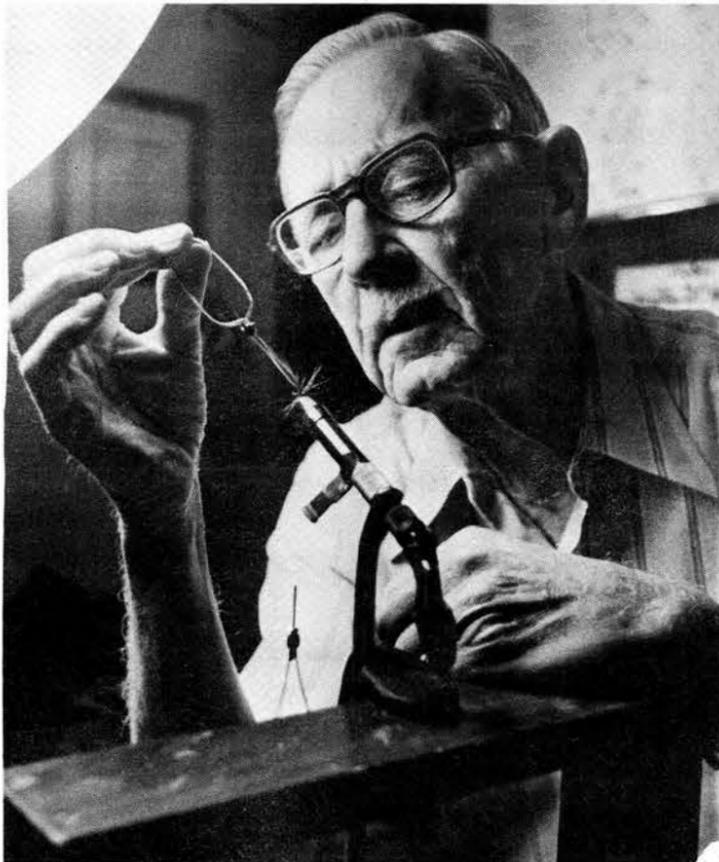
Stan Serpa — 8256 15



DAVE BUSHMIRE (2431) received the "Best of NETCON" award for his paper "Solid Phase Bonding" at the recent International Microelectronics Conference in New York. The paper received a similar award at a conference in Los Angeles earlier.



VERNE CHRISTY (9542), Sandia Labs Bowling Association president, reports that leagues and teams are now organizing for the coming season. Anyone interested in joining a team may call Verne, 4-2443. League play will start the last week in August.



# sandia PEOPLE Report

SINCE RETIRING two years ago, C.J. McGarr, former Director of Property Management, has become an avid tyer of fishing flies and a writer on the subject. He has two articles in current fishing magazines — *Roundtable* and *Fly Fisherman*.

FIFTY-SIX BAGS of mail arrived Monday morning at Sandia's Mail Room. Senior Clerks Tony Lopez and Joe Hernandez (with 50 years of Sandia service between them) urge all Sandians to request their outside correspondents to use organization numbers. It would help move internal mail more quickly.



# Johnny Otero Awarded Certificate For U of A Counseling Service

"For a most outstanding job. Without your help, the program would not be what it is today." These are the words on a certificate of recognition received recently by Johnny Otero (2632), second shift computer facilities clerk. The certificate, from the University of Albuquerque Dean of Students, was awarded along with a Bachelor's degree in University Studies, during ceremonies earlier this summer.

The certificate is in appreciation of the volunteer hours (about 15 per week) Johnny spent as a counselor for the Dean of Students. He talked with students about academic, career, financial and personal problems.

"Although not part of the course work," Johnny says, "the counseling activity fit very well with the content of my sociology classes. Sociology at the U of A is a now subject —



we're concerned with race relations, affirmative action, institutions, individuals in society, education and crime."

The interest in crime led to another counseling job. Johnny is now a probation officer of Valencia County District Court. He works with young people — some of them in serious trouble with drugs or facing theft and

## Death



Henry Saavedra of Contracts and Liaison Section 3725-1 died Aug. 2. He was 56.

He had worked at the Laboratories since August 1949.

Survivors include his widow and a son.

assault charges. Field investigations, interviews with parents and relatives, and lengthy discussions with the youngsters themselves determine his recommendations to the Court.

"You win some and you lose some," he says, "but we've had our share of success. Out of 37 cases — junior high kids mostly — more than half returned to school and graduated. Of these graduates, nine earned scholarships to college."

Johnny believes in education. He has been working at the Labs at night and going to school full time during the day for the past three and a half years. He started at the Labs as a janitor in July 1968.

This fall, he will be returning to school to work on a Master's degree.

### JUNK • GOODIES • TRASH • ANTIQUES • KLUNKERS • CREAM PUFFS • HOUSES • HOVELS • LOST • FOUND • WANTED • & THINGS

**CLASSIFIED ADVERTISING**  
Deadline: Friday noon prior to week of publication unless changed by holiday.

**RULES**

1. Limit 20 words.
2. One ad per issue per category.
3. Must be submitted in writing.
4. Use home telephone numbers.
5. For Sandia Laboratories and ERDA 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

TRASH BAGS, new stock, \$4/box, proceeds to S. Highway 10/14 Project, Lab News Office, Bldg. 832.

HAIR DRYER, floor model, \$20; sun lamp, adjustable floor model, \$35. Russell, 294-1035.

GOLF CLUBS, D2/R, First Flight, Golden Eagle irons, 2 p.w., steel shaft, woods, 1, 3, 4, alum shaft, \$90 Anderson, 256-0346.

HAWES-WESTERN Marshal, 44-mag, 6" barrel, single action w/western style holster, \$125. Montoya, 344-6024 after 5:30.

NEW in box, 1861 Enfield Musketoon Parker-Hale, \$200; Coot All-Terrain vehicle, \$695; 25/06 BDL Remington, \$225. Gonzales, 242-6264.

VW BEETLE trailer hitch, sell or trade for tow bar; elec. rotisserie, \$10; venetian blinds & 20" bicycle & parts. Banks, 255-2544.

ALUMINUM window w/screen, 36" wide 60" high, \$10. Navratil, 293-5527.

TRAVEL TRAILER, '73 Jayco 18', tandem axle, elec brakes, self contained, shower, gas/elec. ref., sleeps 7. Burken, 255-8534.

SHREDDER, used 2 times, \$85. Miller, 255-1838, 5308 Constitution NE.

ST.BERNARD puppies, AKC

Registered, sire & dam both OFA Certified. Barnes, 898-2375.

TIRE, Atlas GR-70-14, fabric radial, 300 miles of use, \$40. Anderson, 281-1180.

TWO BF Goodrich Sivertone nylon tubeless tires, H-78-15, 4-ply, snow tires, used 1 week, \$50 or best offer. Hill, 299-0490 after 5:30.

GOLF CART, \$10. Larsen, 268-7880.

GIRL'S bicycles, two, single speed, \$15. Coughenour, 296-4146.

LAWNMOWER w/catcher Jackobsen, \$100 Hilderbrand, 268-0392.

SEARS 1 spd. Spyder bike w/banana seat, \$25. Bennett, 299-1144.

8 FOOT Cavalier camper, jacks & heater, loaded. Conrad, 294-2807.

TORO self propelled reel mower, grass catcher, \$35; washer & dryer, \$40; water skis, \$10; theater seats, \$5. Guttman, 765-1217.

FIGHTING cocks, winning blood lines, 2 mature & 1 teenager, also hens, \$5 ea. Baxter, 344-7601.

O'KEEFE & Merrit "Portrait 30" gas range & hood, copper tone, \$50. Hansen, 869-2716.

CABIN Cruiser, 23', I/O w/Chev. 283, stove, sink, water system, AM radio, running condition, needs paint, \$1500. Watkins, 266-6963.

METAL kitchen cabinet set w/sink; 4'x6' alum. sliding window; Little Giant 300gph submersible pump. Bouton, 898-3562.

FURNITURE, early American decor, sofa, \$125; chair, \$40; rocker, \$50; rug, \$75; bed, \$50; Sears 3-spd. bikes, \$25. Dossey, 294-1167.

MEN'S left handed golf set, putter, 3-5-7-9 irons, 1-3 woods, bag w/cover, sturdy Play-Day cart, glove, \$55 complete. Schubeck, 293-1292.

FOLD-DOWN camper trailer, Apache, solid state Ramada, sleeps 8, sink, ice box, elec. brakes, front awning, Spatz, 299-0410.

QUALITY 3/4 carat diamond ring, jabel setting, buy outright or use stone on consignment. Morgan, 296-6387.

TRIPLETT volt-ohm-milliammeter, model 630 PL, AC/DC, wholesale price \$95, selling for \$50. Kraft, 299-2157.

DISHWASHER, General Electric, portable. Collier, 265-6873 after 5.

CAMPER shell by Highway cruiser, delux model, lwb, asking \$500. Ingram, 256-1928.

PLATE glass mirror, beveled edge, masonite backing, 48"x30". Hall, 299-3594.

DRYER, Sears Kenmore, gas heated. \$80. Moreno, 266-8498.

FOLBOT, 17' sailing kayak, complete w/sail & rigging, 2 seater, good for fishing & sailing. Tate, 298-2777 before 3.

GOLF clubs, '71 Hogan: iron, 2pw. reg. shaft (Apex), \$95. Chapman, 294-0437.

OUTSIDE antenna for color TV, \$24 or make offer. Barton, 265-8607.

BELL & HOWELL auto slide projector, 22 slide trays, \$50; transistor tape recorder, \$50. Hiltunen, 6500 Cochiti Rd. SE.

SPYDER bike, girl's 20", 1-spd., banana seat & hi-rise bars, \$8. Coalson, 298-0061.

AQUARIUM filters, 2 outside of tank type, almost new, large, \$4.50, small, \$2; also pump, breeding trap. Van Deusen, 299-4328.

HEATH kit, SB-101 w/CW filter, speaker cab, desk mike, scanalyzer SB-620, Hornet beam w/rotor, 30' tower cantenna, make offer. Szymanski, 256-1708.

GOLF SHOES, Eagle Royal,

white Corfam, monk-strap, size 9 1/2 B. Half price. Hansen, 298-0308.

19" MOTORCYCLE rim & spokes, 300-19 tire & tube, 3.25/350-18 knobby tire; chrome music stand. Noel, 298-2142.

#### FOR RENT

1-BDR. apartment, furnished/unfurnished, private patio, AC, carpet, utilities paid, minutes from Sandia, 541 Espanola SE, new. Aragon, 255-7338 or 242-1651.

#### TRANSPORTATION

'70 FORD Ranchero, 302 V-8, AT, \$1350 Prevender, 299-5253.

'70 CHEV Caprice, 2-dr. HT, new radial steel tires, less than 50,000 miles, PS, PB, AC, AM/FM, tapedeck, \$1750. Mauldin, 293-2079.

'57 CHEVY station wagon, 2-dr., 3-spd. Hurst 327, needs work, best offer. Zmiejko, 265-4927 after 5.

'73 YAMAHA RD-250, 3000 miles, \$600. Pilkington, 298-2988.

SCHWINN bicycle, 10-spd. Varsity, upright handlebars, fenders, \$50; Wards unicycle, practically new, \$20. Campbell, 255-9659.

'73 FORD LTD, 4-dr., AC, V-8, \$2700. Martinez, 881-9396 after 6.

'70 MOTORCYCLE, Triumph, Trophy 500, \$550. Baca, 299-3340.

YAMAHA LT/MX 100cc motor cross trail bike, \$375. Fox, 299-9031.

'73 HONDA CB-350, 4-cyl., 7200 miles, fairing, crash bar, sissy bar, \$850. Clarkson, 293-8397.

#### REAL ESTATE

12 1/2 ACRES, 5 acre tracts, wooded area, off North 10-

Frost paved road, \$1400 per acre, flexible terms. Brunacini, 281-1105.

LARGE 3-bdr. home, FHA appraisal, marble fireplace in den, new carpet, sprinklers, near schools, Sandia bus, \$32,800. Hughen, 296-2600.

3-BDR. furnished mobile home at Conchas Lake, 1 block to water, mooring, sandy beach. Getz, 299-4865.

4-BDR., den w/wet bar & fireplace, close to mountains on 0.3-acre cul-de-sac lot. Saric, 296-5667.

2-BDR. home on extra large corner lot, 2 miles from Sandia Labs, 800 Cagua Dr., SE. Weston, 255-1196.

#### WANTED

GENTLEMAN to share large home in NE Heights, call for appointment on Aug. 14 or after. DeWerff, 298-1029.

BEGINNER Flamenco or Classical guitar students, Melo, 268-7017.

CAMPER shell, min. 36" to 42" max., for lwb, walk-in door. Silva, 255-1710.

USED wood lathe, about 42" bed, will purchase tools if available. Schamaun, 298-5192.

#### WORK WANTED

FRESHMAN honor student wants babysitting, light house work, pet care etc. Sandia Eldorado H.S. district, experienced, good with children. Cheri, 293-5473.

#### LOST AND FOUND

LOST — Oval shaped silver earring w/white shell inlay & turquoise; Large blue frame sunglasses; Silver loop earrings.

FOUND — Man's brown rim Rx glasses; Man's tie tac (brown stone) LOST AND FOUND. 4-3441.

**●STEAK●C-CLUB●SUMMER OLYMPICS●DARTS●CABLE BEACH●HORS D'OEUVRES**

FRIDAY	SATURDAY
<b>8 — HAPPY HOUR</b> Oriental Buffet Adults \$2.95 Under 12 1.95 Heinz 75 On Stage NATURAL PERSUASION	<b>9 — SOUL SESSION</b> MIDNIGHT SPECIAL 8:30 - 12:30 Members Free Guests \$1
<b>15 — HAPPY HOUR</b> Roast Beef Buffet Adults \$2.95 Under 12 1.95 Tim & Paul On Stage WESTERNAIRS	<b>16 — KIDS OLYMPICS</b> 11 - 6 — — — — — STEAK FRY Cocktails @ 6:30 Dinner @ 7:30 Dance @ 8:30 Members \$5 Guests \$6

**BARGAIN** — prices (like \$0) on athletic fame when you win one of the Summer Olympic contests. Adults compete the 23rd-24th at broad jumping, shot putting, distance running, obstacle coursing, swimming, pingponging, golf chip shotting, dashing, darting, and, of course, cribbage. Scouts for the pro teams will be taking notes — it's your big chance. Kids compete the 16th-17th at most of those plus football throwing, diving, bean bag tossing, bell buoy climbing, and balloon racing. Trophies, ribbons, even inclusion in the Stravasnik Book of World Records go to winners young and old. *Entry blanks* in the Club office.

**HUNTERS** — of the rare and unusual will find at least the rare on the 16th. Also the medium and the well done. It's the Western Steak Fry featuring beef born west of the Pecos, then raised and braised on the open range. ("Hailsfar, iffen it's been branded, it's done enough," says San Antonio Max.) A dozen ounces of sirloin, potatoes baked and naked, pinto beans, and tossed salad. If you've always wanted to be a cow muncher, this is your chance. Elton Travis and his Stomp-Stimulators for dancing later.

**ARE** — Satin Flames smooth and hot? Have your teenagers answer this burning question by sending them off to the Teen Dance on the warm 14th. Tickets early, please.



THIS IS Nettie Vidzar, this is Roger Campbell (2632), this is a '31 Model A Roadster, and this is the greatest idea for August yet: the Steak Fry at the Club on the 16th. *Tickets by the 9th.*

**LED** — a life of landlocked lugubriousness long enough? Bask on the Bahama beaches by booking your body on the Oct. 25-Nov. 4 trip to the Nassau Beach Hotel on Cable Beach just outside Nassau. Exciting day life (water skiing, sailing, deep sea fishing, golf, tennis) and even more exciting night life. \$535 (dbl. occ.) each for members and guests with \$100 due now, remainder at the end of the month. AND/OR travel, Wolfpackers, to Little L and Big D on Sept. 20 and 21. Lobos vs. Texas Tech in Lubbock, Cowboys vs. Rams in Dallas. Bus there, fly home, game tickets, lodging, transfers — all for \$105. Call Bob Banks at 268-7723 before Aug. 18.

**ASTRAY** — went the intentions and you Sanadoes forgot to make reservations for the big night out with spouses at the Barn Dinner Theatre? Do not despair; call Sandra Ruth (294-2090) *today*, and you'll eat a fine meal, see a fine performance of "Finishing Touches," and have a fine time — all for \$8 each (incl. tax and tip).

**BY** — golly, a flash: the new Board of Directors elected Pete Gallegos (2336) president, Julian Lovato (4276) vice president, Felix Almaraz (9485) secretary, and Bill Davis (Ret.) treasurer. Committee heads will be announced by the president soon.

**FALSE** — quasi/pseudo-imitation-cold-hors d'oeuvres you won't find at C-Club Happy Hours. You *will* find true genuine authentic hot hors d'oeuvres at each and every Happy Hour for only 75¢ a plate. They're a great prelude to buffets — sweet and sour pork, sukiyaki, fried fish, bean sprouts, other Oriental comestibles tonight; handcarved roast leg of beef with the trimmings next Friday.

**PROFITS** — low? Expenses high? Spirits sagging? The place for you is the C-Club, the event is Soul Session, the band is the Midnight Special, the day is tomorrow, the time is 8:30, and the price is right.

MORE INFO — 265-6791.

**●TIM & PAUL●TROPHIES●NASSAU●BARN●OFFICERS**

**Events Calendar**

- Aug. 8-10 — Corrales Adobe Theater: "The Little Foxes," 8:30 p.m., 898-3323.
- Aug. 8, 13 — Santa Fe Opera: "The Cunning Little Vixen," 9 p.m.
- Aug. 9-10 — Arts In The Parks: "The Mime Experiment," 3-4, Free. Roosevelt Park on 9th; Rio Grande Park on 10th.
- Aug. 9, 14 — Santa Fe Opera: "Cosi Fan Tutte," 9 p.m.
- Aug. 12 — Albuquerque Children's Theater: "Way Way Off Broadway," 7 p.m., Free, Erna Ferguson Library.
- Aug. 12 — Club Culturale Italiano: Five Films, 7:30 p.m., Reception Center, 146 Quincy NE.
- Aug. 12, 16, 20 — Santa Fe Opera: "La Vida

- Breve" and "L'Enfant et Les Sortileges," 9 p.m.
- Aug. 13 — Albuquerque Children's Theater: "Way Way Off Broadway," 2 p.m., Free, Enlisted Men's Club, KAFB East.
- Aug. 13-16 — Bernalillo County 4-H Fair and Rodeo, State Fairgrounds; Rodeo 14th and 15th at 7:30, 16th at 1:30 and 7:30.
- Aug. 14-17, 22 — Corrales Adobe Theater: "Antigone," 8:30 p.m.
- Aug. 15-17, 21-22 — Albuquerque Civic Light Opera: "Applause," 8:15 p.m., 17th 2:15 p.m. only, Popejoy Hall.
- Aug. 15, 21 — Santa Fe Opera: "Carmen," 9 p.m.