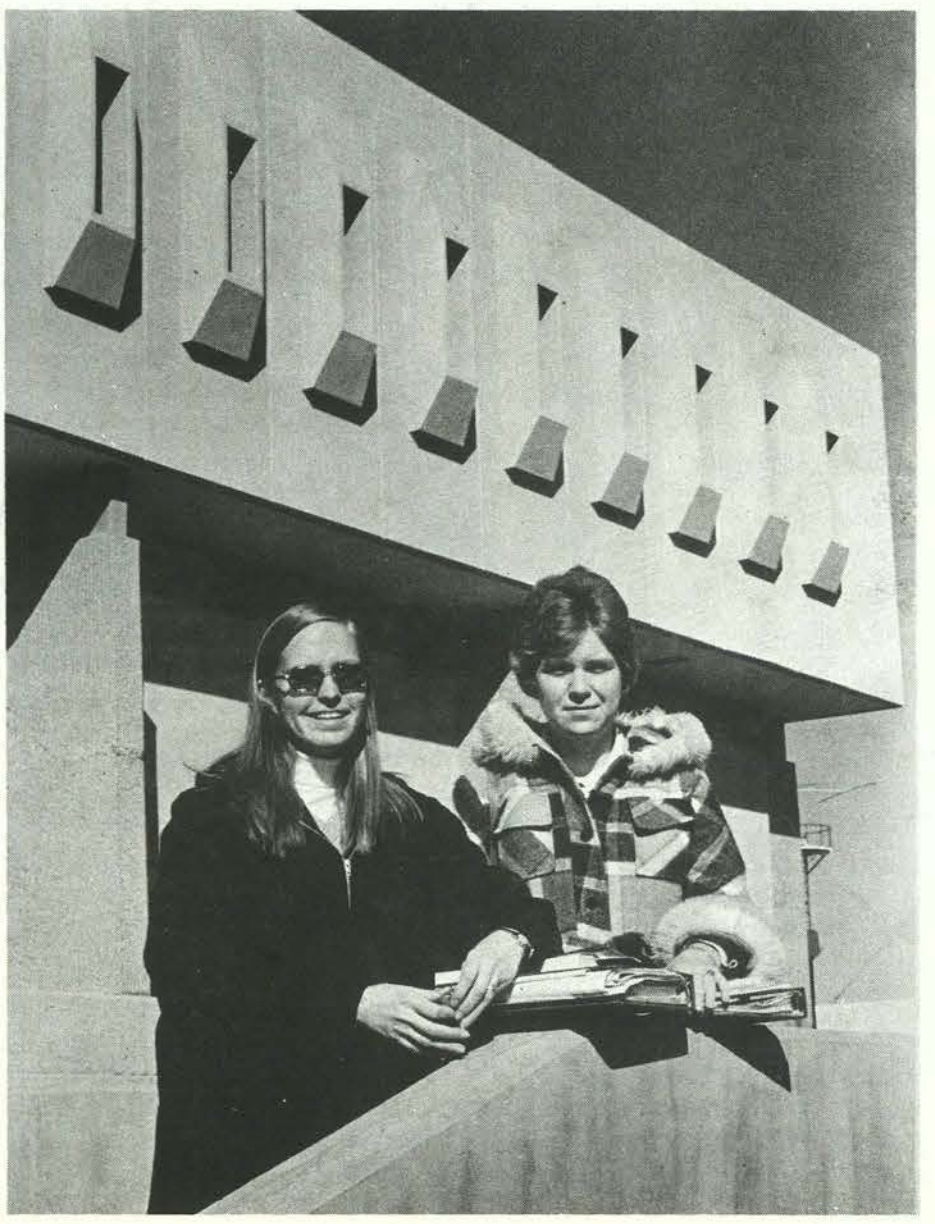
THE PROTO II CREW—From left, Ray Brown (Missouri Research Labs), Tom Coffman (Pulsar Maintenance), Darrell Green (Missouri Research Labs), Tom Martin (supervisor, Division 5245) and Dave Johnson, John Seamen, and Dillon McDaniel (all 5245).

LAB NEWS

VOL. 29, NO. 4 FEBRUARY 25, 1977

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



TWO SANDIA WOMEN, systems analysts in the Computing Directorate 2600, are teaching FORTRAN courses at the University of New Mexico this semester as part of UNM's Adjunct Professor Program. They are Chris Morgan (2622), left, and Margaret Coy (2625).

E-Beam Machine Will Advance Fusion Research

Sandia Laboratories has begun testing the nation's most powerful electron beam fusion accelerator, a machine that ultimately will produce power outputs of eight trillion watts in pulses lasting 24 billionths of a second.

Named Proto II, the new accelerator is being test fired at a level of about four trillion watts. At full power the accelerator will be used in fuel pellet irradiation experiments to determine if electron beams can be used to produce electric power by controlled thermonuclear fusion.

Electron beam fusion is one of several so-called inertial confinement fusion schemes in which powerful beams of electrons, photons or ions would be used to implode small spheres of deuterium-tritium fuel, fusing the atoms in this mixture and thus creating small thermonuclear explosions.

These microexplosions—equivalent to the detonation of about five pounds of

(*Continued on Page 11*)

Accident Insurance Offered Employees

On March 1, all regular employees of the Labs will become eligible to enroll in a new insurance program, titled Voluntary Group Accident Insurance Program. Covering accidental death or dismemberment, the insurance is paid for entirely by the participating employee through payroll deduction.

A Sandia Bulletin, to be issued early next week, states that the new insurance program ". . . .is intended not as a replacement for your life or health insurance (since loss due to sickness is not covered), but as an important supplement to your present insurance. It offers high-limit protection for you and your family against covered accidents, and broadens the protection provided by Sandia's benefits program."

Three types of protection are offered, in amounts ranging from $10,000 to $250,000, in $5,000 units. The broad form of coverage, offering 24-hour "all risk" protection is available to an employee alone, or may be elected under the Family Plan which covers an employee, spouse and children. A third type of coverage provides employee-only Public Conveyance protection while a passenger in public transportation.

Premiums for the new insurance are relatively modest, owing to economies realized by group insurance programs. The Voluntary Group Accident Insurance Program was developed in Benefits Planning and Administration Division 4113. Complete details of the Program will be carried in a Sandia Bulletin to be issued to all employees next week. Orientation meetings for interested employees are scheduled for early March.

Afterthoughts

Culture--Albuquerque-style culture comes in several packages. Many painters work here, and there is a mind-boggling number of potters, jewelry designers, and other artisans who do clever things with their hands. On stage, the Classics Theatre group recently presented Shakespeare's Julius Caesar, and many other dramatic groups are active with offerings that cater to a spectrum of high, medium and not-so-high tastes.

These are all worthy, but to our mind (and taste) the principal ornament of Albuquerque culture is music, classical music, and we would like to proclaim the inestimable worth of two institutions: the New Mexico Symphony Orchestra and radio station KHFM (which plays only classical music). Do you realize how bleak our earscape would be without these two institutions? There's a vast wasteland of country & western and mindless rock out there, assaulting our sensibilities relentlessly.

The Symphony earns 70% of its budget. Next month they'll try to raise the other 30%. Be gentle to your ears--be generous. As for KHFM, tune to 96.3 for some good listening.

***

Merrill Murphy (1731) has sent us a curious item: "Let us speculate upon a few of the possibilities of uranium 235. Some workers in this field believe that it will be many years before atomic power will be generally available, and perhaps never. On the other hand, some scientists believe that the realization may come within ten years or sooner. . . . This brings up the possibility of isotope 235 as an explosive. Pound for pound an 'atomic explosion' substance would be many thousands of times more powerful and destructive than any explosive known at the present time."

The Mineralogist, August 1941

***

Liquid courage--The Sitzmarkers Ski Club's newsletter describes a new product--the "Taos Guzzler, ski poles with a built-in warmer inside, schnapps, brandy, whatever." This year your Guzzler's contents will help calm your nerves on the slope as you pick a route through the rocks. *js

DON'T BE A COASTER where Security is concerned. On the other hand (here Security Educator Dody McKelvey's), coasters for mugs are now available in self-service stores, or by ordering stock number 691 323. Ed Spriggs in Tech Art adapted the four designs. Each is illusionary in some way—"the better to remind you that Security isn't," says Dody.

Congratulations

Mr. and Mrs. Don Schueler (5719), a son, Daniel Ryan, Feb. 5.

Sympathy

To Leon Gordon (3422) on the death of his mother in Albuquerque, Feb. 14.

To Mel McCutchan (3163) on the death of his mother in Tacoma, Wash., Feb. 22.

5100 Seminar Meets

Darrell Hicks (5162) will discuss "Testing Finite Difference, Finite Element, and Operator Splitting Methods on a Wave Propagation Problem in Linear Elastic" at the 5100 Seminar Mar. 1. On Mar. 8 Gary Kellogg (5114) will present "Electronic Properties of Single 5-d Transition Metal Atoms Chemisorbed on Metal Surfaces." The seminar meets at 3:15 p.m. in Bldg. 806, Rm. 201.

LAB NEWS

Published every other Friday

SANDIA LABORATORIES

An Equal Opportunity Employer

ALBUQUERQUE, NEW MEXICO
LIVERMORE, CALIFORNIA
TONOPAH, NEVADA

Editorial offices in Albuquerque, N.M.
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FTS 475-1053
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In Livermore Area 415 455-2952
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bruce hawkinson & norma taylor write
bill laskar does picture work
so does russ smith
&
lorena schneider reports on livermore

Goekler Completes Apprenticeship Program

Maintaining an A average in both academic and lab courses, Scheery Goekler (9572) finished the Materials Processing program in three years and four months—more than 7300 hours of training which normally requires four years.

"Studying does not come easy for me," Scheery says. "I have to work at it." To Scheery, the high grades are as important as the fact that she is the first woman to complete a Sandia apprentice program.

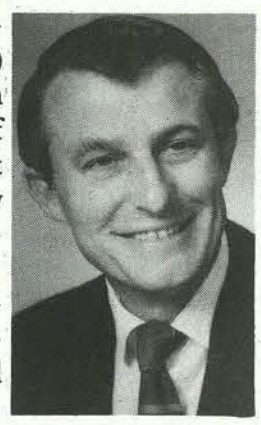
Scheery Goekler (9572)

Scheery entered the program in September 1973. She was graduated from high school in Oklahoma City in June, 1971, married Ralph (1243) and moved to Albuquerque. She worked two years at Lenkurt GTE, testing transformers, before joining Sandia as an apprentice.

As a journeyman materials processing technician, Scheery joins the 189 Sandians who have completed one of the five Sandia apprenticeship programs. The first program for apprentice machinists was started in 1958. Since then, electronics, materials processing, mechanical standards and plant maintenance apprentice programs have been added. There are now 108 apprentices in training. The programs are administered by three committees composed of representatives of Sandia management and the Metal Trades Council.

"Now that my training program is finished," Scheery says, "I want to work at my job and think about the future for a while. In the meantime, I'll build a greenhouse at home and grow orchids."

Jim Barham Advisor to NFS Engineering Program



Department Manager Jim Barham (8360) has been named to an advisory committee of UC/Davis to assist women in securing new opportunities in engineering.

Funded by the National Science Foundation, the University will offer a tuition-free program to women who possess bachelor of science degrees in math, physics, chemistry, computer science and engineering and who are currently unemployed or underemployed. To begin in July 1977, the one-year retraining program is aimed at graduates whose degrees were received during the past two to 15 years.

A weekend format allows participants to continue with work and home responsibilities while enrolled. Through cooperative job placement with industry, the University also arranges for participants to gain practical experience in engineering jobs during the program.

As a committee member, Jim will be concerned with curriculum, selection of instructors, publicity and informational material, and policy matters. He says that the program is being implemented on an experimental basis and, if successful, will be tried in other universities.

WINNING TROPHIES in the recent doubles tennis tournament at Sandia/Livermore went to Mike Ferrario (8432) and Eva Leong (8212). Sixteen teams consisting of 31 men and one woman competed in the round robin tourney. Tim Sage (8432) and Don Hardesty (8115) were runners up. Next tourney is planned for early summer. Employees interested in playing should contact Reggie Mitchell (8115), ext. 2449, or Joe Ianucci (8326), ext. 2602.

ASME Automotive Conference Hosted

Each year Bay Area sections of the American Society of Mechanical Engineers sponsor a Technical Divisions Conference. This year's 26th Annual, held Feb. 3 in Oakland, was hosted by the local Mt. Diablo Section.

According to conference chairman Alec Willis (8344), over 250 participants from the Bay Area and West Coast attended the conference which focused on the theme "Movin' On—the Future of Automotive Propulsion." Among the invited speakers were Dan Hartley (8115) who presented "New Methods for Internal Combustion Engine Research" and Harvey Pouliot (formerly 8116) who discussed "A Variable-Displacement Spark-Ignition Engine." The conference featured an extensive exhibit of new propulsion system hardware and automobiles, including ERDA-developed research vehicles.

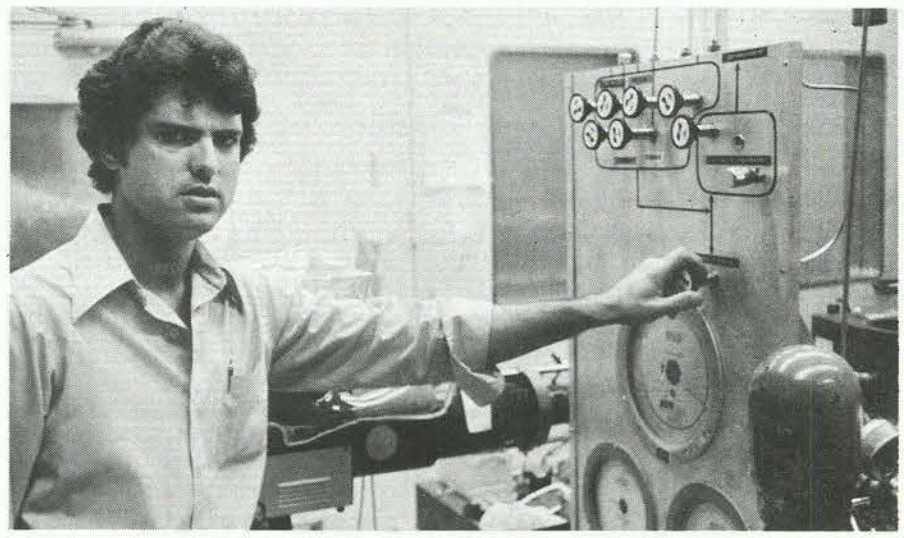
Other Sandians serving on the conference committee were Arlyn Blackwell (8110), technical program chairman; Billy Sanders (8116), exhibits; Roger Baroody (8410) hospitality; Lou Tallerico (8332), session aides; Pat Gildea (8335), registration and arrangements; and Mike Dyer (8116), session director.

LIVERMORE NEWS

VOL. 29, NO. 4 LIVERMORE LABORATORIES FEBRUARY 25, 1977

Toward Greater Efficiency

Laser Used in Combustion Diagnostics



COMBUSTION researcher Bob Schmieder

"What's going on in there?" is the question combustion researchers ask about the operating internal combustion engine. Researchers are confident that a more complete understanding of engine combustion would bring enhanced engine efficiency, hence, greater economy and lowered pollution.

Atomic physicist Bob Schmeider of Device Studies Division 8342 proposes a different application of the pulsed laser as a tool to gain this more complete understanding of the combustion process. His work is part of SLL's program in combustion research.

Bob explains the new technique: "We direct the pulse from a high power laser through a window in the cylinder wall of the engine. Within the combustion chamber the pulse of laser energy causes an electrical breakdown of the gaseous air-fuel mixture. Atoms become ionized and a high temperature plasma is produced. Light is collected from this plasma and analyzed by a spectrometer. Analysis of the spectra permits us to infer certain properties to the combusting gases, such as the relative numbers of carbon and oxygen atoms. The final results provide information such as the fuel/air ratio at various points and various times in the combustion chamber, and this information will help engineers to design more efficient engines."

The technique promises to have application to other combusting systems, such as direct-fired turbines and other flame-fired devices.

Sandia Participates in Education Fair

SLL was among the participants in a recent Vocational-Technical Education Fair sponsored by the Livermore High School Counseling Department and held in the school's Student Union Building.

Over 50 business, industry and out-of-state vocational-technical school representatives participated. Evelyn Foote, supervisor of Secretarial and Clerical Development Section 8212-1, represented Sandia.

Sympathy

To Louise Taylor (8256) on the death of her mother in Sebastopol, Calif., Feb. 1.

To Carl Holmes (8413) on the death of his father in St. Louis, Mo., Jan. 30.

To Frank Halasz (8266) on the death of his mother in Apache Junction, Ariz., Feb. 8.

To Bob Gallagher (8321) on the death of his mother in Boston, Mass., Feb. 8.

To Jackie (8156) and Dennis Sparger (8116) on the death of her father in Santa Rosa, Calif., Feb. 3.

BETTY BIRINGER with subject of recent study.

AIRCRAFT IMPACT PROBABILITIES

Chances Are You'll Finish Reading This

If you're reading this at Sandia Albuquerque, stop and listen for a moment.

Depending on your moment and your ears, you're more or less likely to have heard an airplane. We're located near a busy airport and several high and low altitude airways, with 266,000 takeoffs, landings and flyovers each year.

What is the probability that one of those aircraft might interrupt your reading? "Not high," says Betty Biringer of Safety Assessment Technologies Division 1233, who's studied the likelihood. "But it could happen, of course."

Betty recently estimated probabilities that an aircraft would crash (1) somewhere in Area I, (2) into Bldg. 836 in Area I, (3) into a residence in Four Hills. Here are her estimates:

Site	Aircraft Impacts *
Area I	1 in 40 chance per year
Bldg. 836	1 in 1000 chance per year
4-Hills home	1 in 10,000 chance per year

* These figures of course assume that accident rates, traffic patterns and volume, and all other parameters remain the same; we must assume too that each probability is independent from year to year.

These approximations are based on 1975 aircraft traffic volume, national accident statistics, and a generally accepted aircraft impact probability model. This equation includes site size, type of aircraft (private, military, commercial) and the "skid factor" for each type, the "flight mode" (takeoff, inflight, landing), the number of such operations, and the distance from the runway or airway.

The equation does not include the likelihood that a given site could be shielded by other buildings or that a pilot could take evasive action (a pilot would generally attempt to avoid a structure). So the figures given are maximum probabilities—"upper bound," says Betty.

If shielding and pilot avoidance are roughly considered, the probabilities drop to one-fifth to one-tenth of the values listed above. Thus, if impact probabilities remain constant over time, a house in Four Hills could reasonably expect company in the form of an aircraft two or three times every million or so years. Real estate values are not expected to plummet.

The study reflects the kind of statistical risk analysis Betty's division performs for various groups in the Labs. And, as it points out, "These examples involving familiar physical situations can give an improved perspective on the meaning of small probability values that are part of many Sandia engineering activities."

Speakers

R.L. Schwoebel (5820) and J.K. Johnstone (5846), "The Sandia Solidification Process - A Brief Overview," Radioactive Waste Form Workshop, ERDA Headquarters, Jan. 4-5, Germantown, Md.

R.M. Jefferson (5430), "The Energy Crisis," Highland H.S., Jan. 5.

D.A. Powers (5831), "Review of Denial Chemistry Studies at Sandia Laboratories, Albuquerque," D^3S Meeting, Jan. 12-13, Golden, Colo.

O.J. Burchett (9352), "Application of NDT to Non-Standard Problems," Colorado Section of ASNT, Jan. 18, Golden, Colo.

W.R. Hoover (5844), "The Philosophy of Composite Materials Toughness Testing," Southern California Section of the Metallurgical Society of AIME, Jan. 20, Los Angeles.

I. Auerbach (1333), "Ablation Performance of Tungsten, Copper-Infiltrated Tungsten and Other Metal Systems in Arc Heated Jets," AIAA 15th Aerospace Sciences Meeting, Jan. 24-26, Los Angeles.

F.H. Mathews (9355), "Application of Light Initiated Explosives to Blowoff Impulse Testing of Complex Shaped Structures," 13th meeting of the IMOG Subgroup on Environmental Testing, Jan. 25-27, G.E. Pinellas, Fla.

L.C. Beavis (2353), "The A.V.S. and its New Status in the American Institute of Physics," the Southern California Thin Film and Surface Science Chapter, AVS, Jan. 26, Hawthorne, Calif.

J.H. Gieske (9352), "Use of Computers for Control and Analysis of NDT Methods," New NDT Technology Session of Golden Gate Welding & Metals Conference, Jan. 26-29, San Francisco.

J.M. Hueter (3521), "Creativity in Management Choice or Chance," U.S. Customs Service, Nov. 4 and 18, San Diego; "Creativity in Scouting," Annual Chaparral Girl Scout Council meeting, Dec. 3, Albuquerque; "Creative Approach to Problem Solving," American Welding Society, Dec. 3, Albuquerque; "Creativity - Choice or Chance?" Albuquerque Council of Camp Fire Girls, Dec. 9.

J.T. Grissom (2152), "Hybrid Microcircuits at Sandia Laboratories," Jan. 5, UNM.

H.E. Guttmann (1222), "Engineering Psychology - The Human Factors in Our Lives," ZONTA Society, Jan. 27, Albuquerque.

E.L. Burgess (5133) and D. G. Schueler (5719), "Concentrator Development Task of the ERDA Photovoltaic Systems Definition Project," ERDA Semi-Annual National Solar Photovolaic Program Review meeting, Jan. 18-20, San Diego.

J.R. Brandon and S.L. Langley (both 5442), "Sludge Irradiation: Bacteriology and Parasitology"; R.L. Ward (5441), "Inactivation of Enteric Viruses in Wastewater Sludge"; M.E. Morris (5442), "Cost and Effectiveness Comparisons of Various Types of Sludge Irradiation and Sludge Pasteurization Treatments"; H.D. Sivinski (5445), "Overview of the ERDA/EPA Program in Treatment of Municipal Sludge," Conference on Municipal Waste Treatment, John Hopkins University, Jan. 26-27, Baltimore, Md.

S.A. Moore (9470), "Tonopah Test Range," Southern Nevada Section ASME, Jan. 18.

N.J. DeLollis (5813), "Metrication and International Standards," Northwest Optimist Club, Jan. 27.

LOTS OF SANDIA COMPONENTS work first time around. But this SANDAC (Sandia Digital Airborne Computer) may be the first to literally take the cake. The morning after the device's first flight test, secretary Jenny Cordova presented Charlie Blaine's Advance Development Division 2136 with an "It Worked" cake. From left, front row: Rudy Schindwolf, Chuck Borgman, Duane DeWerff. Back row: Paul Pierce, Dan Cooper, Ray Leuenberger (2325), Al Giddings, Jim Kobs, Nathan Wyatt, Bill Nielsen, Charlie, and holding the computer, Steve Reynolds.

Supervisory Appointments

JIM BANAS to Solar Total-Energy Program Management Division 5711 effective Feb. 16.

Jim spent the summer of '67 at Sandia while completing his PhD from the Illinois Institute of Technology, where he also earned Bachelor's and Master's degrees in electrical engineering. He joined the Labs full-time in March of 1968.

Systems analysis has been Jim's specialty at Sandia. He has done weapons development and worked with delivery systems and underwater sound sources. For the past several years, in the energy business, Jim has performed systems analysis of solar systems and wind turbines.

He is a member of IEEE.

"Keeping my house alive" is the way Jim describes his leisure time activities. He also enjoys woodworking and trying his hand at gourmet cooking.

He and his wife Dona have three young sons. They live at 3008 Santa Clara SE.

* * *

BILL CAMP to supervisor of Reactor Theory and Analysis Division 5425 effective Feb. 16.

Bill joined the Labs in August 1970 after earning a PhD in applied physics at Cornell. His Bachelor's degree in electrical and nuclear engineering was awarded from Manhattan College in New York City in 1966.

At Sandia, Bill's work has been concerned with solid state theory—primarily theoretical studies of phase transitions in solids and liquids.

He is a member of the American Vacuum Society and the American Physical Society.

Bill spends evenings and weekends building his home in Sandia Knolls in the foothills on the east side of the Sandia Mountains. The exterior is about finished but "much remains to be done inside." He takes an occasional day off to do cross country or downhill skiing, back packing or rock climbing with his wife Terry.

* * *

JOHN HART to supervisor of Purchasing Division F 3723 effective Feb. 15.

John joined Sandia in April 1951 and held a number of positions in various organizations before assignment to the Purchasing organization where he has been a buyer for the past 17 years. He was a production scheduler, technical writer and an administrative assistant.

Before joining the Labs he worked for a year with the civil service. He holds Bachelor's degrees from UNM in business administration and health and physics education. He spent three years in the U.S. Navy and was a member of the Naval Reserve from 1950 to 1967.

John enjoys golf and skiing. He and his wife Ann have three grown sons, and live at 7501 Morrow Rd. NE.

NEW SUPERVISORS—Bill Camp (5425), John Hart (3723), Clyde Northrup, Jr. (5824), Ron Garin (9631-2), Jim Banas (5711), standing, and Jim Sweet (5842).

JIM SWEET to supervisor of Thermophysical Properties Division 5842 effective Feb. 16.

He joined Sandia in December 1970 after earning a PhD in Physics from the University of California. His bachelor's degree is from Stanford and was awarded in 1961. Jim served in the Navy on the nuclear submarine U.S.S. Barb, operating out of Pearl Harbor from 1961 to 1966.

At Sandia he has worked on thin film interconnection techniques for the radioisotopic thermal generator program, on fabrication of magnetic bubble memories in thin films, and on a thin film neutron detector device for fuel pin motion studies.

He is a member of the American Physical Society, the Sierra Club, and the Sandia Peak Ski Patrol. Jim enjoys hiking, camping, skiing and woodworking.

He and his wife Mary, with their two daughters and son, live in Tijeras.

* * *

RON GARIN to supervisor of Design Definition Support Section 9631-2 effective Feb. 16.

Ron joined Sandia in January 1958 following experience in drafting in the St. Louis area. He also worked as a draftsman with the U.S. Army Engineers in Ft. Leonard Wood, Mo.

He spends most weekends playing tennis.

Ron and his wife Donna have a teenaged son and daughter. They reside at 11400 Brussels NE.

* * *

CLYDE NORTHRUP, JR., to supervisor of Chemical Technology Division 5824 effective Feb. 16.

Clyde joined Sandia early—he was a summer hire at the Labs in 1958, '59 and '60 while he was attending Oklahoma State University. He earned a Bachelor's degree in math and physics in 1961 and a PhD in physics in 1966. He was also the Big Eight discus throwing champion in 1959 and 1960.

After two years with the U.S. Army in Washington, D.C., assigned to the Ordnance Corps, Clyde returned to Sandia in Oct. 1968 to work on the SNAP program. He has also worked on the development and characterization of hydrides, and on the magma energy project.

He is a member of the American Physical Society and the national physics honorary society.

Clyde's leisure activities are divided among Scoutmaster and Cub Scout duties with his three sons, hunting, hiking and rockhounding. He also plays in the Shrine bagpipe band.

Clyde, his wife Lu and the three boys reside at 2333 Inez Dr. NE.

All Choked Up

It isn't often that we get the opportunity to translate into action that which we see in safety films, but one Sandian did last Saturday night during dinner at the Coronado Club. Our Sandian (who prefers anonymity) noticed a woman at a nearby table gagging and beginning to turn blue. Having recently seen the film "The Heimlich Maneuver," he promptly went over, got permission from the lady's escort, and gave her the bear hug-and-nudge treatment. On the second try out popped a hunk of meat, and the lady returned to breathing with a "thank you" to her savior. Jerry Jercinovic's Safety Department 3440 ordered the film; call your safety consultant if you wish to arrange a showing.

Solar Receiver for Power Tower Under Test in Area III

SOLAR RECEIVER STRUCTURE, possibly destined for top of the "Power Tower" in Area III, is undergoing test at the Radiant Heat Facility. Phil Class (9331) is near area between doors where concentrated beams of 200 mirrors tracking the sun will be focused. Receiver wall is now lined with 2000 infrared lamps which simulate the five megawatts thermal energy the receiver will sustain during operation.

In a series of tests in Area III, Sandia is subjecting one of the three solar receivers for the Five-Megawatt Solar Thermal Test Facility to the same levels of radiant energy it will receive from the focused beams of 200 mirrors tracking the sun.

Divisions 9337 and 9331 of Systems Environmental Testing Department 9330 have rigged the receiver with the largest array of infrared quartz lamps ever built at the Radiant Heat Facility. The 2000 lamps are arranged in 114 panels facing the 30-sq.-metre receiving area of the boiler wall. The array generates five megawatts of radiant energy. Temperatures on the surface of the boiler wall reach 340°C (650°F) and up to 510°C(950°F) on the super-heated regions of the receiver.

The 10- to 15-hour long tests are conducted at night because the lamps require up to 6.25 megawatts of electrical power.

The tests are simulating a day's operating conditions of the receiver. Water circuits, operational controls, instrumentation and steam circulation are checked. (For the tests, the steam is circulated through an air condenser and returned to the system. When the completed solar power facility is operating, the steam will drive turbines to generate electricity.)

Martin-Marietta of Denver is prime contractor for the solar receiver. The boiler was fabricated in place by Foster-Wheeler Energy Corporation. If selected, the entire 90-ton receiver and superstructure will be moved to the five-megawatt Solar Test Facility starting in December 1977. Two other solar designs are being evaluated. Selected design will be the prototype for a ten-megawatt electric pilot plant to be operational in 1980. Conformation Systems Department 8180 under Cliff Selvage is managing the Solar Central Receiver project.

Supervisors Paul Adams (9331) and Ned Keltner (9337) are responsible for the systems testing.

FRED NORWOOD (5166) was one of several Sandians, members of the Society for Advancement of Chicanos and Native Americans in Science, who counseled with students attending Science Fair and student open house activities at New Mexico State University recently. Community Relations Division 3163 provided a Sandia Labs exhibit for the meet. Other counselors were Jesus Martinez (9515), Robert Sandoval (5214), Ralph Trujillo (5811) and Michael Huerta (1282).

The Impact of Energy Development In the Southwest

That's the title of the 17th Annual ASME (American Society of Mechanical Engineers) Symposium on March 17-18 at Keller Hall, UNM. President Sparks is the keynote speaker, and Dick Bice (9000) is the symposium chairman.

Four panels will introduce the problem (Thursday morning), forecast the supply and demand of traditional energy sources (Thursday afternoon), present alternative energy sources (Friday morning), and discuss energy conservation alternatives (Friday afternoon). Jim Scott (5700) and Glen Brandvold (5710) are among the 25 panelists.

Registration is $20 for ASME or EJC society members, $30 for others, and supports the Association's scholarship fund. Registration forms are available from Stan Meyer (1281) at 4-6541. The deadline is March 10.

Take Note

The Kirtland Officers Club would like to remind Sandians that they are eligible for membership. The O-Club has two major facilities, one on the east side and one on the west side of KAFB. Both offer restaurants, cocktail lounges, barber shops and swimming pools. Private party rooms are available for groups at modest prices. The east side O-Club, the nearer to Sandia, serves breakfast, lunch and dinner every day. Club dues are $9 per month, and members may charge any of the goods or services provided by either of the Clubs. Applications for memberships are available at each facility.

* * *

This is the kind of notice that does little good, but it's worth a try. Vicki, the Equitable representative, has been getting dozens of calls about the new dental plan, and Equitable has nothing to do with the plan. It's carried by The Travelers, and Doris Mason, 4-2663, is happy to answer inquiries about things dental.

* * *

More than 800 items go on the auction block tomorrow, Feb. 26, when the city holds its public auction. Stuff by the score, from automobiles to a French telephone, is scheduled to go. The items represent surplus and used city equipment as well as unclaimed or stolen goods. It's held at 5501 Pino NE and starts at 9 a.m.

* * *

The 1977 edition of "Automobile Income Tax Deductions" put out by AAA is now available in the LAB NEWS office (Bldg. 814). The pamphlet explains the rules governing deductions for business and for personal use of an automobile. To get a copy, stop by the office (no phone calls, please) or send a self-addressed internal mail envelope to Div. 3162.

* * *

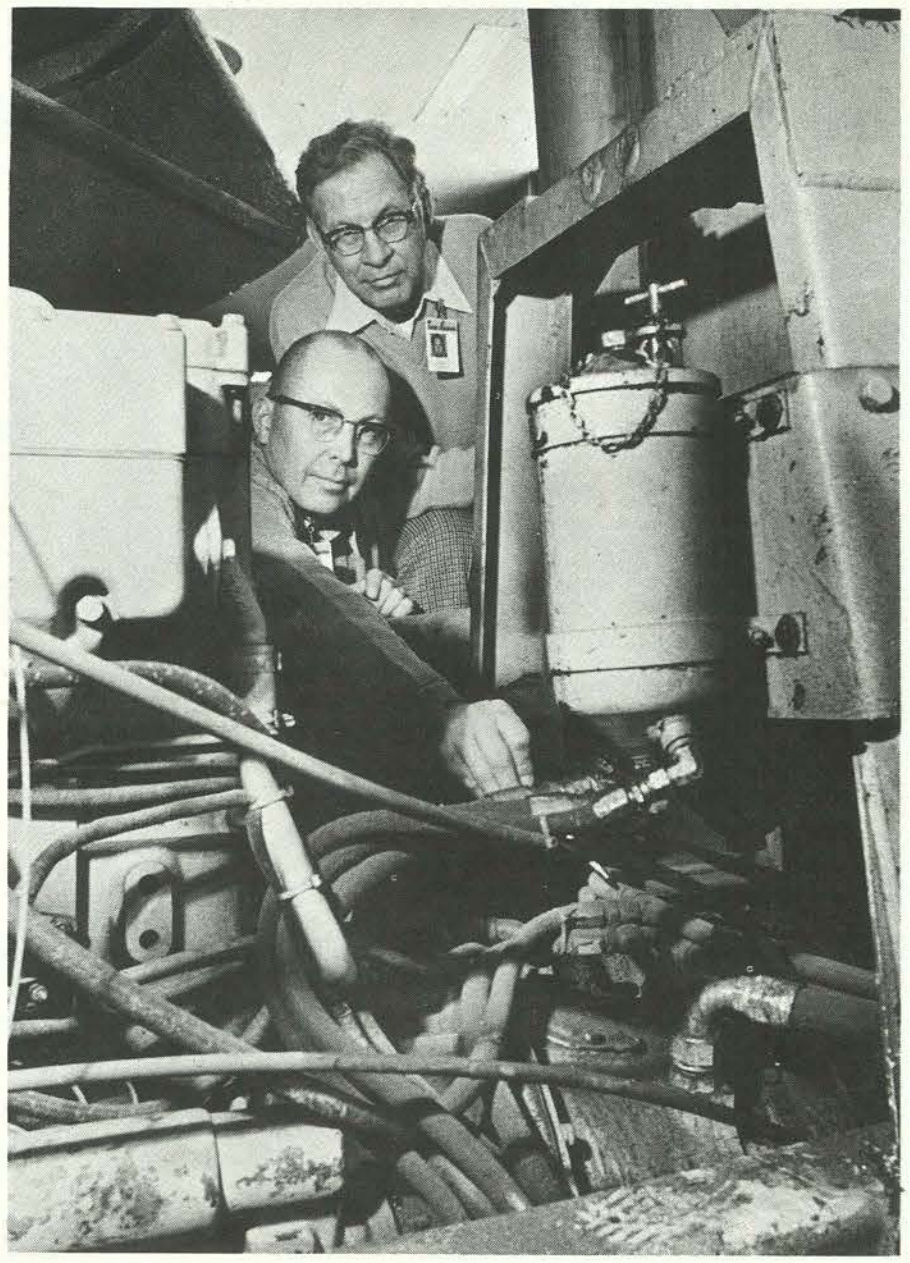
Sorry Charles, sorry James. Last issue, LAB NEWS carried James Farmer's photo under "Retiring." Unfortunately, we listed James' brother Charles (3433) as the name, and Charles assures us he is not retiring—it's James, who had been a carpenter in Div. 9713.

* * *

Frank Gallegos (3531), Technical Institute recruiting coordinator, has news for the 100 or so Sandians who are graduates of Missouri Institute of Technology (formerly Central Institute of Technology)—the school has moved from the old building which housed the institution for 42 years. The new spacious three-story building is located at 9001 State Line, Kansas City, Mo. Frank has pictures at his desk in Personnel Bldg. 832.

* * *

The New Mexico Symphony Ball will be held Saturday, Mar. 5, at 9 p.m. at the Convention Center ballroom. Tickets ($15 per person) benefit the orchestra. Call the Symphony office, 265-3689.



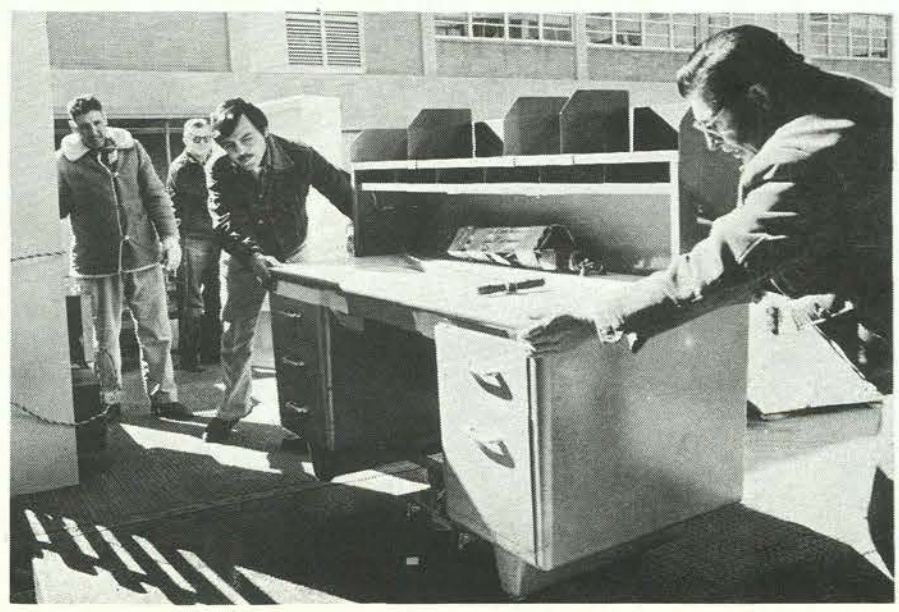
PATENT AWARDED — Most truck tractors carry dual "saddle tanks" — large barrel-shaped fuel tanks on both lower sides of the cab. The tanks are usually connected by a line underneath the tractor, a fire hazard. John Risse (1713) and Jim Taggart (1714), who are in the nuclear safeguards business, devised a self-regulating fuel level equalizing system which puts the connecting lines between the tanks over the top of the tractor chassis. Key to the system is use of same diameter, same length lines and uniform connectors. Fuel is withdrawn equally from the two tanks, and the same level of fuel is maintained in both.

The annual book sale of the Friends of the Albuquerque Public Library will be held on the lower level of the Main Library on March 3 to 5. A preview on the 3rd costs $1.50, but admission is free on the 4th and 5th. Ten thousand books at an average price of 35 cents will be on sale. Proceeds are used to improve library services and collections. The release states that books will be pre-sorted for easy selection.

* * *

Robert Chavez (2622) is founder, director, and producer of the "Moving Spirit Singers," a 45-voice chorus now performing the musical, "Living Witnesses," in area churches. Other Sandians in the chorus are Dora Lovato (2625), Rudy Armijo (2521), and Don Mullikin (2514). Call Robert (243-4825) for performance schedules.

Jeff Gammon (3725) has just been appointed to the newly created Transit Advisory Board, a 12-person group designed to advise the City's Department of Transportation on all matters relating to the city transit system and its relation to the community. Jeff worked with bus systems before he came to Sandia in 1950 and helped to organize the Sandia Special #4 and #5 routes. He is currently a member of the Employee Transportation Committee at Sandia.



DURING 1976 Plant Engineering located space for 291 new hires awaiting clearance. "Limbo" was variously the Air Force Library, the Mecca Club, the Elementary School, transportable buildings, and Bldg. 360. Says Sam Johnson (9751), "Our commendations to the furniture movers in Joe Maldonado's Labor and Grounds Section 9713-4." They're still busy in '77. To Amadeo Aragon, Claire Smith, Paul Herrera, and Antonio Salazar, thanks from the new hires!

'ROOTS' SPURS INTERESTS

Ron Hill Is Avid Genealogist

RON HILL (5217) displays his family coat of arms, awarded to Nicolas Hill by Queen Elizabeth in 1584.

"Since 'Roots' there has been a tremendous surge of interest in genealogy," says Ron Hill (5217). Ron is vice president and program chairman of the New Mexico Genealogical Society, and he welcomes the interest. He's been an avid genealogist for years, devoting a great deal of time to documenting the branches of his family tree.

"It's great fun," Ron says, "and a stimulating hobby. You get involved with real people—blood relatives—whose lives are part of history. You can understand and be part of the past, the events that shaped lives and caused the migration of peoples."

Ron's interest in family history was spurred by a collection of letters written by his great-great-grandparents during the building of the Erie Canal. The letters cover a period of about six years starting in 1833.

"We have both the ones he wrote and the ones she wrote," Ron says, "and that history becomes very personal, very alive."

His great-grandmother also wrote a "memorandum of relations" which became Ron's guide to tracing relatives in England.

"I was in London on company business in 1971," Ron says, "so I thought I'd check some names in church records. I found them. This led to more names, more places, more searches."

Ron has returned to England three more times and has traced his Hill ancestors back 12 generations. That's back to the 1200's.

"Some amazing things turned up," Ron says. "For a number of generations only one male Hill survived. I found rich men, poor men, educated men, laborers, nobles, and thieves. One of my great-grandmothers—put 19 'greats' in front of grandmother—was the daughter of King Edward I. I found a family coat of arms and an ancestor named John Bull. He was Assayer of the Royal Mint for Queen Elizabeth, and according to his own confession mentioned in his will, he pulled a 'shrewd turne' on his boss (which means he juggled the accounts), got caught and literally died of fright."

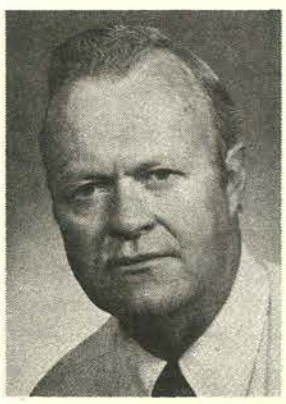
Ron gleans his information from church records, public records, accounts of court proceedings, wills and deeds of property.

He obtained a library card for the Bodleian Library at Oxford and access to the manuscript files of the British Museum, a singular honor reserved for post graduate scholars.

"The Genealogical Society exists to help people find the records they need to trace family history," Ron says. "We published the New Mexico Colonial Census of 1790, several census indexes, and we're working on other projects. The group meets on the third Tuesday of each month at 7:30 p.m. at the Shalako Inn where we maintain a library open to the public. Handy hours for Sandians—Friday nights from 6:30 to 9:30, Saturdays from 10 to 5. If you're interested, you're welcome."

Retiring

Dan Parsons (1123)



Frank Hudson (5443)

Tex Windham (1757)

FUN & GAMES

Sandia Golf Ass'n—Jim Bear (4336) VP of SGA, announces that the SGA membership drive is now underway. As in past years, SGA offers organized play in both weekend and evening league competition. Further, the association plans to run at least 10 tournaments beginning in March and extending until November. Membership fee of $7.50/year entitles you to play in league competition as well as the tournaments. Also, your handicap is computed under USGA rules twice a month and you can attend the annual free banquet.

Other officers and board members for the coming year include Bill McAtee (5422), president; Al Kaping (3732), secretary-treasurer; Al Asselmeier (2111), tournament director; Jack Travis (9511), league director; and Jerry Esch (2622), handicap director.

Persons interested in joining SGA or desiring further information should contact Jim on 4-5333 or any of the above officers.

* * *

Softball for Women—The Sandia Women's Fast-Pitch Softball Team is now being organized. Season play begins in March. Want to play? Call Dora Montoya, 4-4052.

* * *

Orienteering—LAB NEWS, 4-1053, now has a supply of entry forms and other information on the state's first orienteering race, to be held Sunday, March 13, near Tome. Orienteering is defined as "speed hiking over a prescribed course in unfamiliar terrain, using only a compass and a map to navigate."

* * *

Triathlon—With coverage of the event in other media, interest increases in the March 20 Triathlon of Albuquerque, to be held here on the Base. Those interested now include three women, and one entry who lists his age as "60ish". Course is ten miles by bike, five miles of running, followed by a refreshing quarter-mile swim. Winner has shortest elapsed time overall. Sponsors guarantee low-key, fun & games spirit, object being satisfaction of completion, easy on the glory. Entry forms and info: LAB NEWS, 4-1053.

KAFB Offers Child Care

Tired of packing your infant off to the office or laboratory every day? Check out the Child Care Centers on Kirtland East and West. Both accept Sandians' youngsters from 6 months to 12 years, and both charge $.50/hour, 4.10/day, or 70/month. The East Center is open 6:30 a.m. to 5:30 p.m. Monday through Friday; the West Center is open as follows: Monday - 6:30 a.m. - 6 p.m.; Tuesday, Wednesday, and Thursday - 6:30 a.m. - 11 p.m.; Friday - 6:30 a.m. - 1 a.m.; Saturday - 9:30 a.m. - 1 a.m.; Sunday - Base church service times only. For more information, call 4-2314 (East) or 4-9496 (West).

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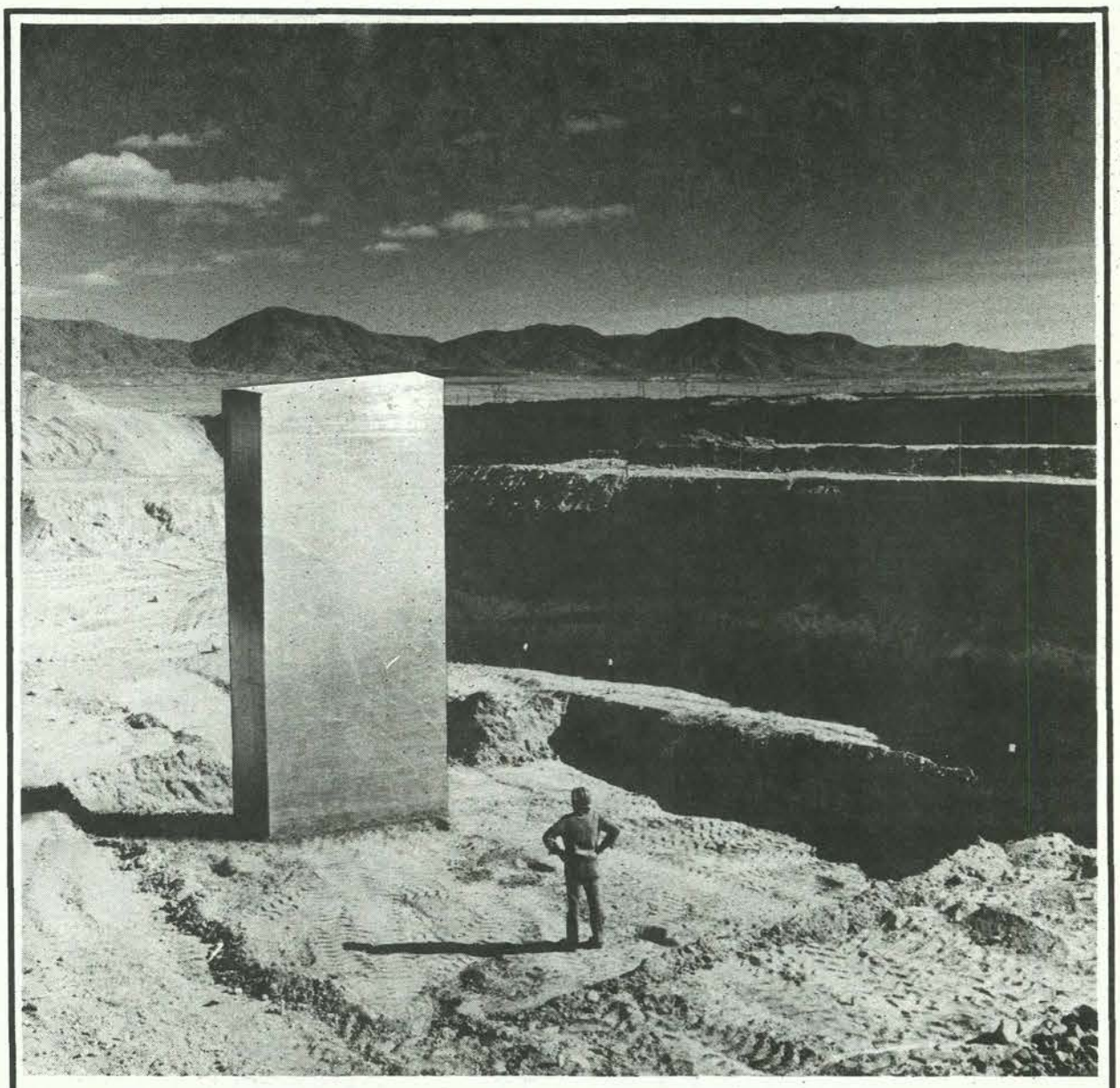

MYSTERY MONOLITH—We checked out a worried call from Gerry Yonas (5240) who reported that an unusual slab had been uncovered during excavation for the new E-Beam Fusion Facility. It doesn't appear to be of Indian origin, and it's not from Sandia because it bears no yellow tape, only the inscription "MMI."

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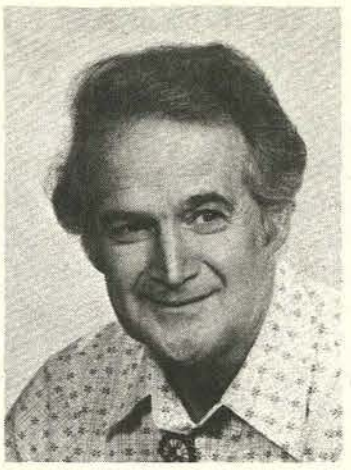
MILEPOSTS
LAB NEWS
FEBRUARY 1977



Ed Hirt - 9632 25

Helen Lucero - 2633 10

Larry Ebinger - 1115 10

Ben Duggins - 9355 10

Preme Ulibarri - 9335 25

Noel Cooley - 8181 10

Jimmy Lee - 1124 10

Paul Stang - 9487 15

Cliff Skoog - 8342 15

Ann McIntyre - 1336 25

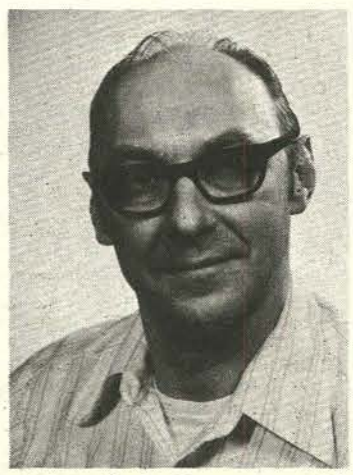
Paul Robertson - 1756 25

Vera Romero - 9560 25

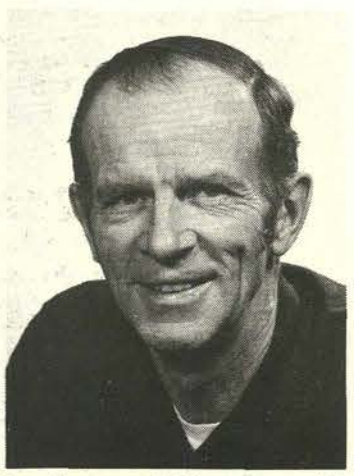
Felix Almaraz - 4123 25

Lillian Hayes - 1135 15

Z.E. Piscotty - 2647 10



Dick Toth - 5423 10



Ben Foster - 9582 15

CONTINUED FROM PAGE 1

E-Beam Machine Will Advance Fusion Research

TNT—would be produced many times a second, releasing heat which would be used to turn a conventional power generator.

Proto II is basically a series of voltage multipliers, capacitors and transmission lines whose function is to store and release electrical energy in increasingly short intervals, with the electrons finally entering a vacuum chamber where BB-size fuel pellets are imploded.

Proto II is housed in a nine-foot-high, 44-foot-diameter tank. The outer portion of the tank, filled with 60,000 gallons of transformer oil, contains eight Marx generators—large capacitors or voltage multipliers which are charged from a conventional power source. These capacitors then discharge into 16 intermediate storage capacitors, also located in the oil-filled outer section of the tank.

The intermediate capacitors then release their energy into pulse forming and transmission lines arrayed near the center of the tank and submerged in 35,000 gallons of water. Located in the center of the tank is a six-foot-diameter, evacuated chamber, or diode, whose outer wall of lucite separates the diode from the surrounding transmission lines.

At peak energy, the electromagnetic wave from the transmission lines passes through the insulator, applying a strong electric field to two carbon-coated metal rings, parallel to each other and about an inch apart. Electrons flow out of the rims of these rings, or cathodes, and drift inward to the fuel pellet suspended in the center of the chamber between the cathodes.

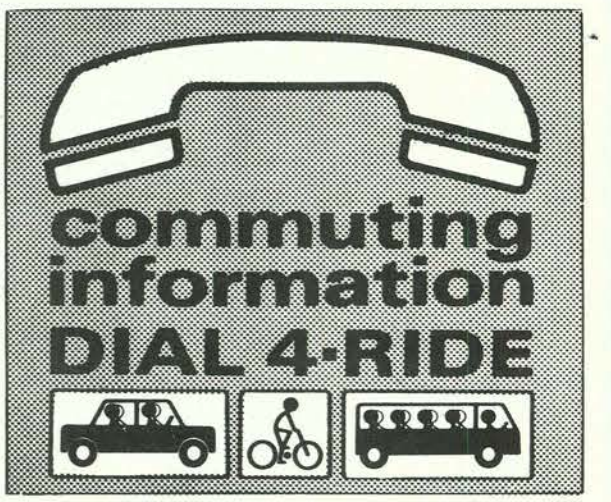
By injecting ionized gas—plasma—into the diode and by utilizing the magnetic forces generated by the electron flow, it is possible to focus the electrons so that the pellet is uniformly irradiated.

Proto II will be used primarily to develop improved methods of switching high-current pulses so that short bursts of electrons are produced, and to study the power flow through the insulating wall separating the transmission lines and the diode.

It is not expected that thermonuclear power plants employing inertial confinement will be in operation until the next century. The principal complication is that scientists have not yet learned how to produce pulses powerful enough to implode a pellet so that fusion occurs.

Sandia scientists estimate, for example, that a commercial electron beam fusion power plant would require at least 100 trillion watts of beam power in a pulse lasting between 10 and 20 billionths of a second. The plant accelerators would have to fire from one to 10 times per second and operate efficiently and reliably with little maintenance.

Sandia now has in operation an electron beam accelerator—Proto I—which produces up to two trillion watts in a 24 billionths-of-a-second pulse. Proto II will have similar pulse length and produce eight trillion watts, and ground has been broken for an electron beam fusion facility whose accelerator will produce 40 trillion watts in a 24 billionths-of-a-second pulse. This $14.2-million facility is scheduled for completion late in 1979.



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4. Use home telephone numbers.
5. For active and retired Sandians and ERDA employees.
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

5-PC. DINETTE SET w/ext. leaf, $35. Baca, 265-3881.

CAMP TRAILER, 8'x17', 2 propane bottles, 3-burner stove, 12 & 110, new upholstery, AM radio, 20-gal. water tank, $900. Dees, 898-8049.

FREEZER: Wards 26 cu. ft., 4 mos. old, still under warranty, $300 or best offer. Armijo, 877-3394.

AMATEUR RADIO, SX101A, HT37 & vert. ant., accessories & misc. junk. McCammon, 255-6125.

DUMONT TYPE 224-A 3" oscilloscope, manual, 2 Mhz response, $50. Blackmon, 298-2095.

POKER/CARD TABLE, 8-sided, green covering, folding legs, $35. McKay, 256-3911.

BABY CAR SEAT; car bed; chest of drawers; maple desk w/1 drawer; misc. boys clothing; bicycle parts. Trollinger, 268-3414.

MARK 10 capacitive discharge ignition, not used since factory repair & test, $10. Stuart, 299-9190.

DISHWASHER, Hotpoint, built-in, single wash cycle, copper color, works well, 7 yrs. old, $25. Holmes, 292-0898.

5-GAL. GASOLINE CAN & gasoline filter funnel, both for $6; Swirljet tip for acetylene torch, $10. Henry, 266-6467.

BRONZE PROPELLER, 10¼ dia. x 11 pitch for 25 to 40 HP Johnson-Evinrude motor. Erdman, 298-3097.

CHILD's car seat, Ford Tot Guard, $18. Caskey, 294-3218.

FRIGIDAIRE refrig., 13 cu. ft., $50; Broil Chef rotisserie, $15. Joseph, 268-5414.

SINGER SEWING MACHINE in blond hw cabinet, w/buttonhole attachment, $55. James, 294-6837.

GOLF CLUBS, Faultless Pro, 3 woods, 9 irons, $75. Johnson, 255-5427.

BISLEU MODEL 45 Colt, 4 5/8" barrel, $75; Stihl chain saw, model AV 20, $75. Roth, 877-4997.

GIRLS clothes, sizes 4 & 5; swing set; tricycle; toy car. Boling, 298-8141.

TYPEWRITER, Royal elec. port. w/case, $100. Armbrust, 298-3666.

TWO G78x15 w/w mud & snow tires, $30; Shure P.A. system, $600; Fender twin-reverb amp. w/JBL's, $500. Baca, 296-8474.

SLEEP SOFA, $125; recliner chair, $45; dinette set, $85; desk, $30; bookcase, $30; dresser w/mirror, $45; chest of drawers, $40; misc. tables & lamps. Duvall, 296-7243.

SEARS LADY KENMORE washer, 3 speeds, 8 cycles, coppertone, $40. Streater, 293-2490 after 5.

8 FT. COUCH, gold, 2 springs need work, $125 or best offer; orange vinyl couch with matching table, $50 or best offer. Katz, 296-8948 after 5.

CLOTHES DRYER, electric RCA Whirlpool, two speed, delicate, wash and wear, humidity sensing, electronic timer, white, $90. O'Neal, 298-2859.

TRAIL BIKE CARRIERS, 1 set, for truck bumper, $8; basketball hoop, backboard, post, $5. Anderson, 299-5727.

TAPPAN GAS RANGE, harvest gold, continuous cleaning oven, $125. Gerst, 898-8427.

TOWING MIRRORS, two sets. Abbin, 883-8665 or 297-7678.

FOAM MATTRESS, queen size, with box springs, $40. Bland, 265-6286.

SKI CARRIER, Barrecrafters Model SR-72. Haid, 292-0159.

POOL TABLE, 7/8" slate, with accessories, $350; two wool Rya rugs, 5' x 8', $60 each; gold velvet bedspread for double bed, $30. Bradley, 265-2981.

GOLF CLUBS, 3, 5, 7, 9, & wedge, 1 & 3 woods, leatherette case, large wheeled cart. Jensen, 821-6178.

BEN HOGAN woods (1, 3, & 5), D-1's, stiff apex shafts, $45; early American lighting fixture; Keystone 8mm movie camera; golfcart. Chandler, 296-3323.

BEDROOM FURNITURE, Bassett, desk with chair, corner table, chest and night stand, white with formica tops, $120. Garst, 299-5870.

GARDEN TRACTOR, 7 hp Wheelhorse, dual wheels, chains, front blade, plow, disk, ripper, load-ramps, $425. Bauhs, 281-3497.

STEREO, combination record player, AM, FM, short wave, needs some work, $50; bumper pool table, sticks, rack, $50. Erdman, 292-0258.

STEEL WINDOW, 9 panes, all hardware. Kurowski, 881-1439.

'74 TRAVEL TRAILER, 24' Holiday Ramblette, self-contained, AC, TV, extras, $5200. McMorris, 293-7359.

DOBERMAN PINSCHER, black and rust, ears cropped, 2-yr-old female, AKC registered, trained, $200. Bower, 299-5765.

TRICYCLE, 12", new; RG-8 cable. Norris, 877-6415.

CLARINET, $100; Yashica 8 mm movie camera, Zoom lens, $15; Canon 35 mm, body only, Leica model, collector's item, $25. Shunny, 265-1620.

COLEMAN TENT TRAILER, 1969, sleeps 8, 20 gal. water tank, stove, sink, cabinets, ice box, $650. Leonard, 299-4684.

TRANSPORTATION

'72 VEGA sedan, 4-spd., new tires, R&H, $900. Dees, 898-8049.

BICYCLE, Schwinn, 3-spd., 26", w/speedometer, $30. Caffey, 296-3320.

'58 HARLEY DAVIDSON Sportster, custom classic, Shorty, 294-8557.

'67 PLYMOUTH 4-dr., V8, PS, PB, AC, radio, 78,000 miles, $450. Piper, 298-2053.

'59 VW VAN, low mileage, $650 or best offer. Lyons, 296-8866.

'74 FORD Courier w/shell, 9000 miles, $2995; $72 Ford Courier, 45,000 miles, $1750, will consider trade. Lackey, 898-6638.

'76 TRIUMPH TR-6, $6200. McHaffie, 299-6850.

CAR TRANSPORTER: '69 Chevy 1-ton w/ramps, rails, 3 fuel tanks, lg. storage boxes, recent engine rebuild. Campbell, 298-9265.

FORD 9N TRACTOR with blade, late 40's model, $1000. Armijo, 877-3394.

'65 PICK UP TRUCK, ½ton, 6 cyl., 4 spd., long wide bed, $600. Sanchez, 292-3852.

'67 CAMARO 327, blue, AT, bucket seats, Rally Sport wheels, $875. Shaw, 294-4008.

'70 F-100 PICK-UP, 52,000 miles, 302 V-8, AT, $1700. Harstad, 298-6551.

SCHWINN PIXIE bicycle, 16" balloon tires, $40; 16" tricycle; child seat for 26" bicycle. Shenk, 296-6015.

'72 MAVERICK, 6 cyl., 170 cu. in., 38,000 miles, under book, $985. Hardin, 881-8034.

14 FT. DELHI FISHING boat, aluminum, trailer, 7.5 hp Triton motor, miscellaneous accessories, never used. Abbin, 883-8665, 296-7678.

'72 4WD DODGE Crewcab, 3/4 ton, 4 spd, 318-V8, AC, PS, PB, radio, 31,000 miles, with shell, $3650. Snow, 296-5148.

'67 CHRYSLER, 4-dr, PS, PB, AC, V8, radio, $395. Boverie, 255-1071.

'74 DATSUN pickup, 30,000 miles, Jackman spokes, radials, $2500. Witten, 299-5491 after 5.

REAL ESTATE

20 ACRES, Cedar Crest, all utilities, $30,000. Martin, 881-8959.

ALL BRICK Trend home, 3-bdr., den w/fp, LR, DR & utility, dbl. garage, lg. lot w/view. Collins, 292-0495.

20 ACRES w/5" domestic well, electricity on property; located 5 miles south of Moriarty, near Highway 41. Curry, 881-2061.

HOMESITE, Ranchos de Placitas, approx. 2.5 acres, community water and electricity, paved access from Hiway 44, $8500, $2000 down, 7½%. Sandoval, 836-5113 after 5.

3-BEDROOM, 1 and ¾ bath, oversize landscaped lot, 3406 Sierra Dr NE, $34,500. Falacy, 881-1802.

FOR RENT

NEW HOLIDAY PARK, 3-bdr., dining, den w/fp, utility, near schools, no pets, $375 plus utilities. McBride, 299-4347.

SKIERS—Snowbird, Utah studio, Feb. 26-March 5, equipped kitchen, color TV, sauna, heated pool, covered tennis courts, snow, $250. Pohlman, 296-1252.

LAKE FRONT CABIN, Vallecito Lake, near Durango, 3 bdr., furnished, fireplace, fishing, boating, horseback riding, hiking, reservations. Croll, 881-7235.

LEASE: family home, 3-bdrm, carpeted, draped, fp, garage, fenced lot, landscaped, Grandview Heights, 1112 LaCharles NE. Moody, 292-2975.

WANTED

FREEZER, chest-type, cheap. Baxter, 344-7601.

BAND SAW. Roberts, 255-9527.

FORD TRUCK RIM, 16", 8-hole, ¾ ton. Parker, 296-6272.

USED CEMENT building blocks, 6"x15" preferred but will consider any size. Evans, 268-7039.

POOL TABLE, slate top. Price, 867-5719.

REFRIGERATOR, apt. size, in good condition. Aronson, 268-7109.

PIANO, console, studio or spinet, good condition. McIntyre, 266-3652, 266-8578.

ELECTRIC GRINDING WHEEL. Kraynik, 294-1043.

A LOOK at "Collected Works of Enrico Fermi." Anyone with copy from Tech Library or elsewhere, call Baker, 4-7089.

GARDEN SPRAYER, 2½ - 3½ gallon capacity. Chandler, 296-3323.

TO TRADE 12 ft. Sears Gamefisher boat with cover, bait-well, and drain plug for 12 ft. riveted aluminum boat. Holmes, 292-0898.

WATER PUMP, centrifugal type, at least 1" diameter suction and discharge connections; also 1" or larger plastic pipe. Schroeder, 344-1011.

LOST AND FOUND

LOST — Rx sunglasses; ladies' dark brown knit glove for left hand; man's silver ring with six turquoise stones; black knit glove with vinyl palm; black or brown leather key case with two keys; black fur-lined glove; Photo-Grey Rx glasses; sunglasses with silver rim in black case; ladies' nose-clip Rx glasses with brown plastic rim.

FOUND — Clip-on sunglasses in brown case (AO "Sunvogues"); ladies' brown knit gloves with light colored leather palms and fingers. LOST AND FOUND, Bldg. 832, 4-1657.

SHRIMP PEEL • C-CLUB • DISNEYLAND • HANK & LEWIE • BONNY ROSE • JUG BAND • PAUL

FRIDAY	SATURDAY
25—HAPPY HOUR GERMAN BUFFET *Adults* $3.25 *Under 12* 1.92 PRISONERS 6:55—Lobo Bus	26—KIDS' KARNIVAL 11-2:30 *Members Only* SOUL SESSION 9-1 BONNY ROSE *Mbrs Free Guests $1* 6:55—Lobo Bus
4—HAPPY HOUR BBQ RIBS BUFFET *Adults* $3.50 *Under 12* 1.92 VIKING 4:30—Singles Night	5—VARIETY NIGHT Watermelon Mountain Jug Band RED RED DRAGON *Food - 6 Show - 7* *Free to Members*

SOME — advice for those who habitually put off picking up tickets for Saturday Night Specials till the deadline: Don't. Add Shrimp Peel devotees to Wickham Brothers devotees and you have an evening with Real Appeel. So get your tickets for the March 19 Shrimp Peel well before the March 12 deadline—$6.25 members, $6.95 guests.

PEOPLE — with their calendars already Deutchmarked won't forget tonight's German Buffet (sauerbraten, knockwurst, hot potato salad, und more). The rest of you? Come on by. Buffets run from 6 to 8, bands (tonight *The Prisoners*) from 8:30 to 11:30 or so. Note: It is not true that tiny arachnids infesting German prisons are called stalagmites.

DEPRIVE — your subteens of fun and frolic, games and gamboling, prizes and presents—stay home from 11 to 2:30 tomorrow and miss the Klub Kids' Karnival. This means, of course, a permanent blight upon your youngsters' social and emotional development, but you'll save all of 50 cents (the amount charged for tickets to ten thrill-packed games of skill, chance and fortune). Lunch at the Karnival? A mere pittance. Members only; bring your card.

YOU — have probably always wanted to visit Merry Olde England and find out why they're Merry and Olde. Now's your chance. The Club is sponsoring a series of airfare-only trips to London lasting two to six weeks (depending on departure date) throughout the summer. Where to stay there, what to do there, how to get around there—these are up to you. But Anglobe-trotter Ed Neidel plans a series of briefings on how-to-make-yourself-at-home (handy talent, that) when you're in England. Round-trip fares begin around $515. Seats are limited so do not delay (in fact, June 3 and June 8 flights are already full). Call the Club for a complete listing of Advance Booking Charter Flights, including ones to Amsterdam and Frankfurt for not much more than London.

OF — course Disneyland *is* Mecca to Orthodox Americans, and the Club's travel package and TI's Peanut Fares make getting there, seeing the shrine (and other great places), and returning home most inexpensive: $189 for the parents, $129 for kids under 12. But seats are filling fast. The trip is April 5-9.

SOLITUDE — getting boring after work on First Fridays, singles? Despair not. Wend your weary way to the Club, give the password ("Singles Night") to the figure at the front door, and trudge down the steps in search of El Dorado. Once there, place a 50-cent tribute in the box—and enter a cameraderie-crammed corner, or dance to *Martha Kay*, or cluster near the Happy Hour bar. NEW HIRES: come on out and meet some singles from foreign divisions. Come by yourself, with a date, in a group, or *en masse*.

WITHOUT — a doubt your kids will enjoy the *Watermelon Mountain Jug Band* as much as their parents do. So bring them along to Variety night on the 5th when the kazoo-kind put on a concert (no dancing, please). Then stick around for an animated Marco Polo fantasy featuring a battle with the Red Red Dragon. Eat well (and inexpensively) before the show—several supper choices available, including corn dogs.

PROVIDING — the best way to see the last two Lobo games are the Lobo buses. Ride them tonight and tomorrow night. Then join the regulars for Fifth Quarter featuring special drinks in Coronadouble glasses—a Cougar Cooler tonight or a Rooty-Toot-Ute tomorrow.

YOU — like *Viking?* ("I don't know. I've never Viked," you say? Don't say it again. Please.) They've become a pretty popular Club band, and they'll hold forth (which is better than a fifth) next Friday at Long Low Happy Hour. On the menu, barbequed ribs, baked beans, homefried potatoes, corn-on-the-cob, and a bunch of salads.

HOT FLASH — Ed Neidel has just announced two new trips to the Orient: 1) Tokyo in late July, two weeks, new Otani Hotel (2050 rooms), stopover privileges in Honolulu on return; 2) Hong Kong either in late July, in late September to use up vacation credits, or in October-November; call the Office with preferences. Details on both trips soon.

WITH — all the artistic talent among the Sanadoes, it's no wonder that it bubbles out around the Club once a year. Their annual Art Show opens in the El Dorado Room on the 7th (5 to 9) and closes on the 8th (11:30 to 1). Stop by and ogle, buy, critique, or pine (for an aspen, maybe).

COMPANY — manners, Sanadoes, are in order on the 8th at 1 when you're serenaded by the singer Engelbert Humperdinck attempts to emulate, Gene Ives. (In a recent Popejoy Hall appearance, Gene was stabbed—not because of his singing—but don't bring sharp objects.) And Paula Paul will be autographing her new book—which should go a long way toward quelling rumors of her illiteracy. Bring a copy of the book. Reserve with Vicky Clark by the 3rd.

MORE INFO—265-6791

SINGLES • IVES • ART • VIKING • SOUL • SAUERBRATEN •

Events Calendar

Feb. 25-27 — "The Birds," modern musical of Aristophanes' classic, Vortex Theater, (106A Vassar SE), 8 p.m.

Feb. 26 — Eliot Feld Ballet, Popejoy Hall, 8:15 p.m., 277-3121.

Feb. 26 — NM Mt. Club, 4-5 mi. hike up Three Gun Canyon, Western Skies, 9:30 a.m., 898-7966.

Feb. 27 — "Dear Liar," with Valerie Harper and Anthony Zerbe, benefit for the ACLOA building fund, Popejoy Hall, 8:15 p.m., 821-1390.

Mar. 1 — "The History of Jazz in America," The Newport Jazz Festival All Stars, Popejoy Hall, 8:15 p.m., 277-3121.

Mar. 2 — "Mummenschanz," Swiss Mime-Mask Theatre, Popejoy Hall, 277-3121.

Mar. 3 — "Henry V," foreign film, Popejoy Hall, 7:30 p.m.

Mar. 6 — Chamber Orchestra of Albuquerque, dinner concert at Casa Vieja, Corrales, 898-4077.

Mar. 8 — "The Vanishing Eden," Audobon Wildlife Film, Popejoy Hall, 7:30 p.m.