

5 Million Rad Gamma Facility

A new 140,000 curie cobalt 60 source is currently being installed in Sandia's Gamma Irradiation Facility in Area V. The new source will produce up to five million rad per hour. (A rad is a measurement of radiation — for instance, an average chest x-ray uses .25 rad.)

The new source will augment Sandia's 50,000 curie source which has been in use since 1963 — thus decaying almost two half lives and reducing its effective strength to about 13,000 curies. The old source will be retained for applications where lower levels of radiation are useful, for instance, to serve as a catalyst in chemical reactions.

In addition to continuing irradiation of materials and components (being carried on largely by Radiation Effects and Semi-Conductor Device Development Department 1930), the new source will be valuable in experiments where a combination of heat and radiation is employed to sterilize space hardware. These experiments are being conducted by Planetary Quarantine Department 1740 for NASA.

While the various holders for the source are being fabricated, it is being stored in a 16-ft. deep tank of demineralized water. The water functions as a shield and coolant — the source produces 2,000 watts of heat.

The source is comprised of 64 pencil-shaped cylinders (1/2 in. diameter, 12 in. long) which contain tiny (1 mil in diameter) pellets of cobalt 60. The pellets are doubly encapsulated in an inner and outer container of stainless steel. These "pencils" can be set up in various configurations to irradiate materials and components. For example, a chamber size of 8 x 12 x 12 inches will produce a dose rate in excess of 5 million rads/hour in the center.

The Gamma Irradiation Facility is scheduled to be in operation with the new source late next month. To schedule use of the facility, contact J.C. Conant or Frank Thome (both 5221), ext. 8991. • dg

Two Years with Plowshare

Dean Thornbrough Returns to Sandia

Dean Thornbrough returned to Sandia Aug. 1 to head Projects Division 9215 after an assignment of two years as Director of the Office of Peaceful Nuclear Explosives (OPNE) at the AEC's Nevada Operations Office.

Dean reports that the two years spent in Las Vegas, working with the nation's Plowshare Program (peaceful uses of nuclear explosives) was a great experience. His enthusiasm for the program runs high.

"All of us in the program feel strongly that nuclear explosives have tremendous applications in peaceful pursuits — gas and oil stimulation, mining, digging harbors and canals, creating underground storage for gas, and creating geothermal energy plants."

During his tenure as OPNE director, emphasis of the Plowshare Program was directed primarily toward gas stimulation —

(Continued on Page Two)

LAB NEWS

VOL. 23, NO. 16

AUGUST 13, 1971

SANDIA LABORATORIES • ALBUQUERQUE NM • LIVERMORE CALIF • TONOPAH NEV

New Faces At Sandia

Research VP Long & Strong on Science

Albert Clogston, Sandia's recently arrived VP for research (5000), has a number of convictions relating to science:

—that "research should be purposive, whether oriented toward specific problems of the laboratory or at gaining new knowledge we know will ultimately be needed. We should avoid research that is repetitious, trivial, or pedantic or of such low quality that it serves no goal at all."

—that "our partial ascent from the generally brutal life of a thousand years ago derives in large measure from scientific advances. But science can be and has been misused and one result is the present widespread suspicion of it. This means we as scientists must pay more attention to how we serve society and how well we are understood by it."

—that "Sandia is one of a very few great R & D laboratories that has learned how to turn science and engineering to the national purpose. I am most impressed. . ."

—that science, its application and its people, remain for Albert Clogston totally absorbing.

Mr. Clogston has been involved in or close to his share of science spectaculars. At MIT in WWII, his group did magnetron research and development and saw these key elements turn radar into a powerful tool for the Allies. After the war, Jim Fisk (now BTL president and a Sandia Director) invited him to Bell Labs. He accepted. "Those were exciting days," he recalls. "It was just about that time that the



ALBERT CLOGSTON

transistor was invented at the Labs by Bardeen, Brattain and Shockley. Then — in 1957 — Schawlow and Townes proposed the laser. Schawlow was in my department at the time and Townes was a professor at Columbia consulting at Bell Labs."

Through the early 50's, Al Clogston performed research on the physics of electron tubes, then turned to solid state physics, principally in the fields of magnetism and superconductivity. He had a stint as assistant metallurgical director in the early 60's, a seeming excursion from his normal occupation which he explains this way: "The

(Continued on Page Six)

Save the Volcanoes Photography Contest

In conjunction with its campaign to preserve Albuquerque's western skyline, the Save the Volcanoes committee has announced a photography contest.

Entries are limited to four pictures per person and must be 16 x 20 mounted black and white or color prints, or color slides. The pictures must pertain to the West Mesa. Deadline for all entries is Sept. 13.

Joe Laval (3213) will be one of the contest judges. Contest rules and prize information are available at any of the photography shops in Albuquerque.



DEAN THORNBROUGH holds Plowshare Symbol: Isaiah.



YOUTH OPPORTUNITY TRAINEES at Sandia Livermore, Summer '71. The young people make a little money, learn a bit about the work-a-day world,

and return to school when summer is over. Looks like this group oriented Labs people too — in hair styles.

Livermore Take Note

Walt Bauer of Physical Research Division 8331 presented a technical paper coauthored with Bill Wilson (also 8331) entitled "Helium Migration in Metals," at the 1971 International Conference on Radiation-Induced Voids in Metals sponsored jointly by the AEC and the State University of New York at Albany, N.Y., June 9-11.

* * * *

Jack Wilson, supervisor of Standards and Calibration Section 8121-1, was guest speaker recently at two professional society meetings: the June meeting of the Golden Gate Chapter of the American Society of Metals and the monthly technical meeting of the Alameda Naval Air Station Engineer's Association. He discussed "Metrication" and, at the ASM meeting, showed the film "Rocket Sled Testing at Sandia."

Sympathy

To Ken Gels (8172) for the death of his father in St. Henry, Ohio, July 18.

To Bruce Nevin (8183) for the death of his father-in-law in Anaconda, Mont., July 13.

To Pat O'Brion (8161) for the death of his mother-in-law in Fort Dodge, Iowa, July 20.

To Bob Ware (8161) for the death of his brother in Miami, Fla., July 23.

Tony Thompson of Metallurgy Division II published two technical articles recently: "The Effect of Grain Size on Fatigue," in the July issue of ACTA METALLURGICA magazine and "Production and Mechanical Behavior of Very Fine-Grained Copper," in the July issue of the ASM and AIME Journal, METALLURGICAL TRANSACTIONS. Both articles were coauthored with Prof. W.A. Baekofen of the Metallurgy and Material Science Department at Massachusetts Institute of Technology.

* * * *

Roy Tackett (8153) took the first place trophy with a low net score of 65 in the recent Sandia Employees Golf Club tournament played at Las Positas Golf Course. He also placed first in the "fewest putts" feature. Moe Houk (8161) finished second in the tournament with a low net score of 68 and was closest to the pin in the hole-in-one contest.

Continued from Page One

Dean Thornbrough

the Project Gasbuggy and Rulison experiments and planning for Project Rio Blanco in Colorado and Project Wagon Wheel in Wyoming. These projects are aimed at recovering natural gas from low-permeable reservoirs deep underground.

"The development of the Rio Blanco gas field, for instance," Dean says, "could provide enough fuel for the entire electricity generating complex in the Four Corners area. Nuclear explosive stimulation is the only way this vital natural resource can be recovered. And the nation faces a natural gas shortage. AEC studies show that use of nuclear explosives for stimulation of low-permeability gas reservoirs has the potential for supplying more than 300 trillion cubic feet of gas, an amount greater than the nation's present proved gas reserves."

During his time at OPNE Dean attended conferences in Washington, Vienna and Moscow with the Soviet Plowshare group.

"The Russians have gained much experience in Plowshare-type projects," Dean says. "They are now using oil produced from a

Wise Owl at Livermore



JOHN ROGERS (8263)

Special Handler (explosives) John Rogers (8263) is Sandia Laboratories Livermore's eighth and newest member of the Wise Owl Club. Its membership is made up of persons whose eyesight has been saved because they were wearing safety glasses.

Using a crowbar to pull a 16-penny, cement-coated nail from a wooden explosives shipping container, the head of the nail came off and hit the frame of his safety glasses breaking the frame. Had John not been wearing them, his right eye could have been seriously damaged.

The Wise Owl Club is sponsored by the National Society for the Prevention of Blindness.

nuclear explosive-stimulated field; they have created several water reservoirs (people are using these for recreation as well as storage); and they have conducted projects for mining, canals, and storage applications."

International interest in Plowshare-type programs runs high. Madagascar has asked for a harbor, Australia and Mexico are interested in projects. Many countries sent representatives to international meetings.

"There is much work to be done," Dean says, "and we need to convince the environmentalists that nuclear explosives are an acceptable solution."

Dean spent much of his time working with environmentalist groups on this educational project. He also met with state governors and legislators to explain Plowshare plans and techniques. "All this was very exciting," Dean says, "but I'm glad to be back at Sandia and at home in Albuquerque."

LAB NEWS

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Holograms, Photoelasticity Aid Stress Analysis

Two techniques — holograms and scattered light photoelasticity — are being used by Experimental Mechanics Division 8122 to observe surface deflections and to analyze stress in small engineering components. Measurements obtained experimentally in the Photomechanics Lab are applied to theoretical calculations to give design engineers meaningful data on the special materials and geometric shapes they use.

"Holography pinpointed a vibration problem in a photomultiplier tube," says Joe Vieira (8122), "that couldn't be found using conventional strain gages, accelerometers or deflection gages. The tube components were just too small. The suspected trouble area was a group of 10 dynodes five mils thick (.005 of an inch) spaced 10 mils (.010 of an inch) apart. Time-averaged holograms let us see which dynode could touch another dynode causing a short-circuit."

To make that analysis, Joe mounted the tube on a fixture capable of vibrating from 0-6000 cycles per second (cps). Using a 50 milliwatt continuous wave helium-neon laser as a light source, a stationary hologram was exposed, developed, and reinserted in the film holder. Looking through the film holder, Joe compared the stationary hologram to new holographic images created when vibration levels were increased. At 398 cps, 417 cps and 479 cps, a pattern of dark lines formed along the length of one dynode, indicating a uniform back and forth motion for the entire dynode (a nonuniform pattern would have indicated elastic bending of the dynode). Thus, holography was capable of recording micro-inch movement of objects as small as these dynodes. Vibration was greatest (and the fringe pattern darkest) at 417 cps. Polaroid photographs of several time-averaged holograms provided visual aids for eliminating the short-circuiting.

"Photoelasticity," explains Wil Jorgenson (8122), "is another analytical tool for determining material stress. It relates to certain changes in the optical properties of homogenous, isotropic, transparent materials when subjected to stress. It's a study of polarization of light, or changes in polarization of light, as the ray passes through a transparent material such as epoxy plastic or glass. In two-dimensional stress analyses, we use a plane polariscope; for three-dimensional work we prefer to use scattered light stress analysis rather than the stress freezing technique where physical slicing of the model is necessary. Scattered light analysis allows us to measure stresses — either real or residual — in the interior of a model as well as on the surface."

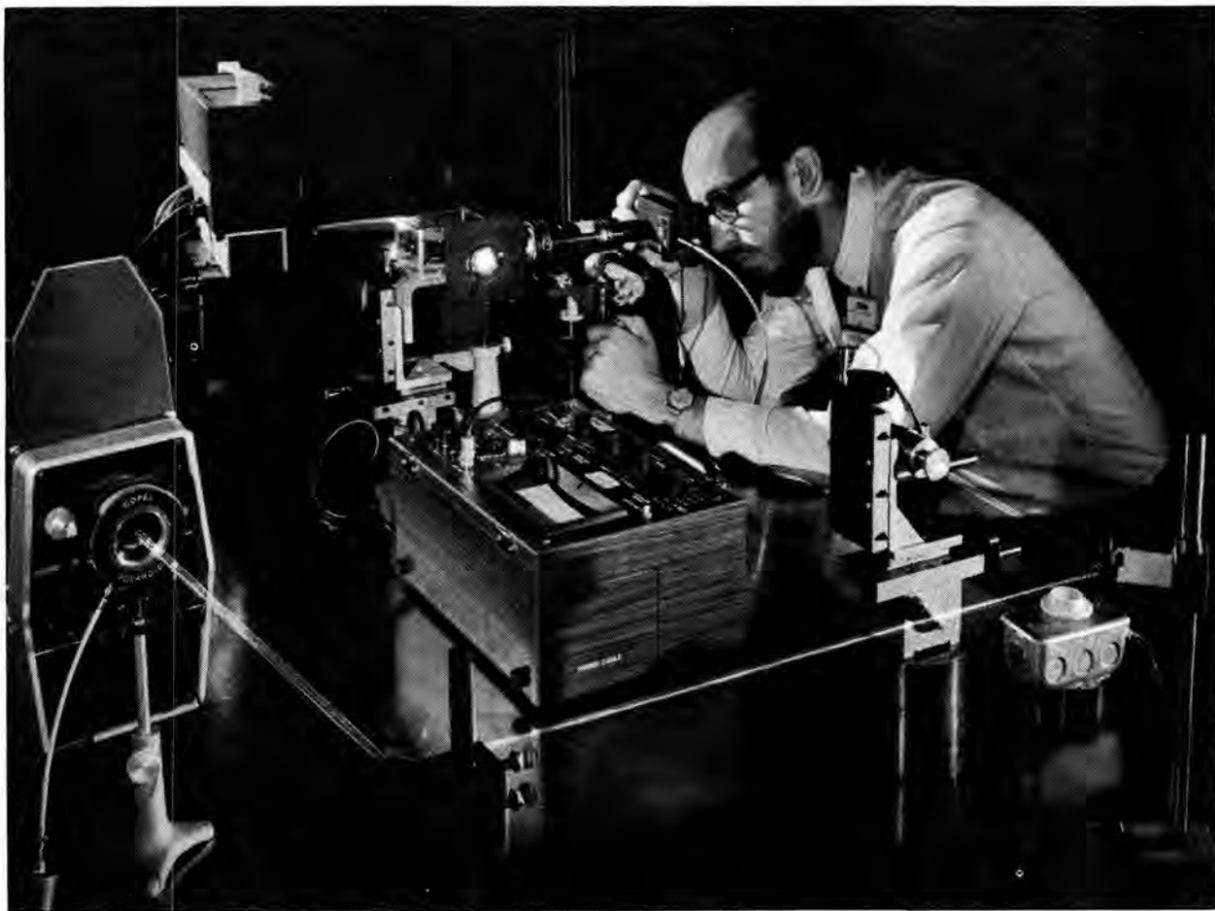
Scattered light stress analysis was used to measure the residual stress of a glass-to-quartz seal in a complex-shaped component containing five different materials. Using an enlarged model, laser light was "conditioned" to converge on a two mil (.002 of an inch) point within the model. Looking at the model through a 2.5 power microscope, the analyst sees light that is scattered perpendicular to the direct laser beam. The changes in polarization of the light along its path give a visual appearance of dark and bright bands called interference fringes. The concentration of these fringes indicates the amount of stress in the material (the higher the concentration, the higher the stress). Locations and the

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STRESS ANALYSIS OF A MATERIAL (in lucite container at end of microscope) is made by Wil Jorgenson of Experimental Mechanics Division 8122 using scattered light photoelasticity technique. The technique is effective for finding stress loads with complex geometric shapes in which dissimilar materials are used.

magnitude of the high stress points can be visually observed.

With glass (most current SLL work uses this material), the scattered light is so faint that visual observation is not feasible and a very sensitive (10^{12} watt/cm²) thermally cooled photomultiplier tube is used. A scanning fiber-optic probe collects and guides the scattered photons from the model to the photomultiplier. The signal is amplified and sent to a recorder. An x-y plotter records the changes in polarization (intensity) as a function of the position along light paths through the model. After this point-by-point investigation of the entire volume of the specimen, the point of high stress can then be located. Or, if a complete stress analysis is desired, these photoelastic data can be combined to solve (on a computer) for the state of stress everywhere in the specimen.

"Engineers," continues Wil, "routinely use material characteristics (e.g., ultimate strength, thermal expansion coefficients) in designing real structures. The theoreticians can evaluate material behavior in relatively few simple shapes and loadings. Because of this, designers are forced to build up mathematical models of real structures by adding together the most applicable simpler ones. But there is a need to verify their resulting stress calculations by getting experimental stress data. This becomes even more essential when extensive use is made of complex geometric shapes of dissimilar materials undergoing unusual stress loads. Scattered light photoelasticity is currently one of the few promising and effective techniques of obtaining a complete three-dimensional stress analysis." • mc



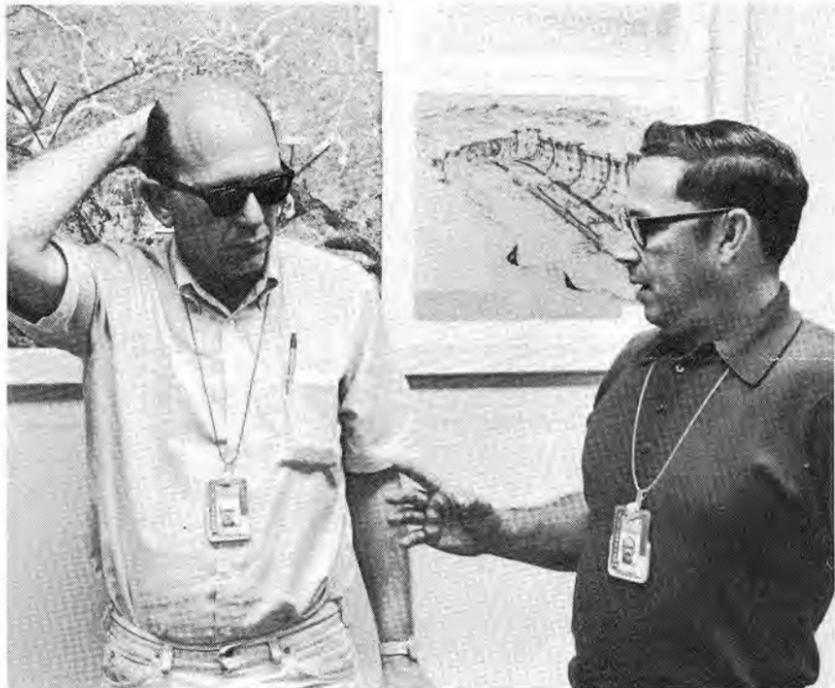
PHOTOMULTIPLIER TUBE held by Joe Vieira (8122) was holographically analyzed in the Photomechanics Lab to detect vibration problems in one of 10 dynodes (components in upper portion of tube).

Congratulations

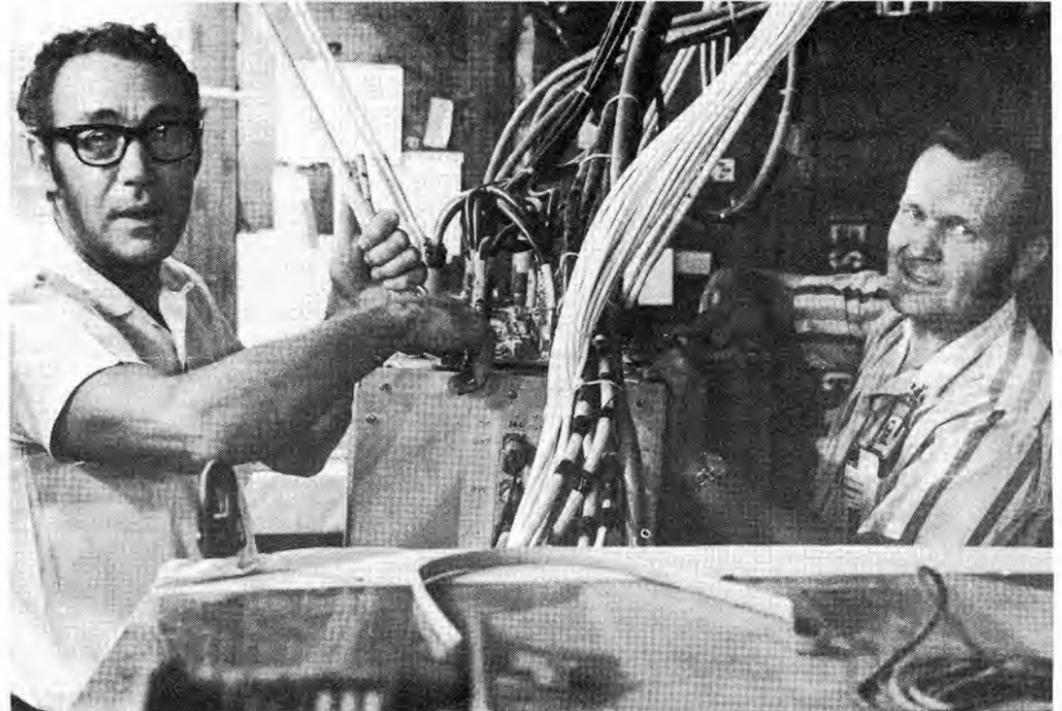
Mr. and Mrs. Hermann Folkendt (8125) a son, Kurt Andrew, July 14.



One hour and 15 minutes to Vegas, one hour to Mercury, and another hour to the work location on Site.



"The coffee pot vented but no grounds escaped? hmmm." Jerry Kennedy, head of Test Systems Division 9134, gets the word from Adam Trujillo (9243).



An NTS tunnel may be defined as a zillion cables surrounded by a little air space. George Duffield (9125) and Ozzie Ozmun (7652) adjust instrument package.



It's not true they found Ben Benjamin back working an old mine when they opened NTS — but he's had a few years experience. Now heads Instrumentation Fielding Division 9123.



Bob Statler, Old Range Hand (Salton Sea, TTR), is resident division (9131) at NTS. Beginning to prefer burro to pickup. . .

Meanwhile, Back at Nevada Test Site

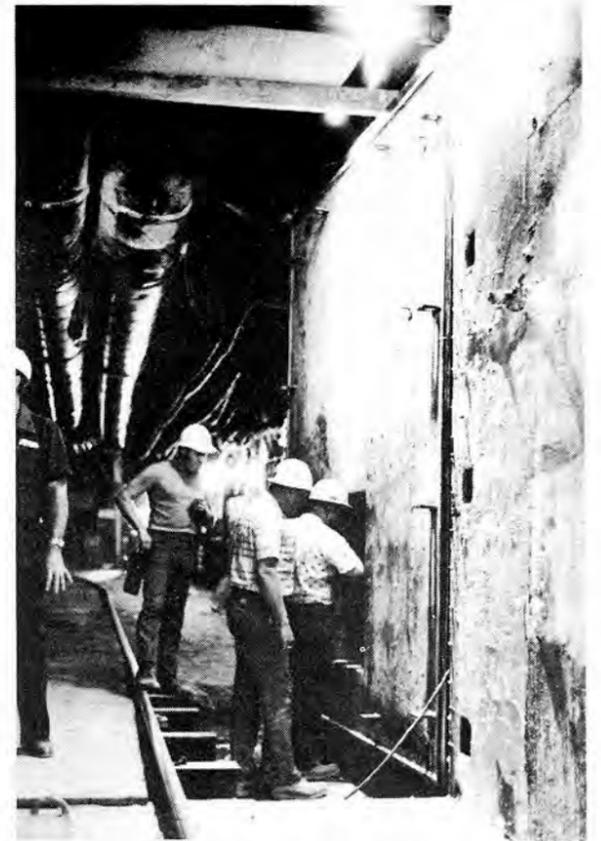
"The principal geographic feature that makes safe operations possible at the test site is its isolation."

Back in the old, old days when — you should pardon the expression — atmospheric testing was still being conducted at Nevada Test Site, it seemed as if almost everyone at Sandia got out to NTS at one time or another and was able to appreciate fully the utter truth of this quote from an AEC brochure. It's unlikely you could find another 1350 square miles more distant from anywhere, at least in the 48 states.

The Test Site remains an active laboratory, not only for LASL and LRL, but

for Sandia as well. Early Monday morning sees a contingent of Sandia types boarding a chartered flight to Las Vegas, where a waiting bus then takes them the 65 miles to Mercury at the southern edge-of the Site. But travel to work is not yet completed, and most have another 30 to 60 miles to go. Come Friday, the group returns to Albuquerque, a little wearier, a little dustier.

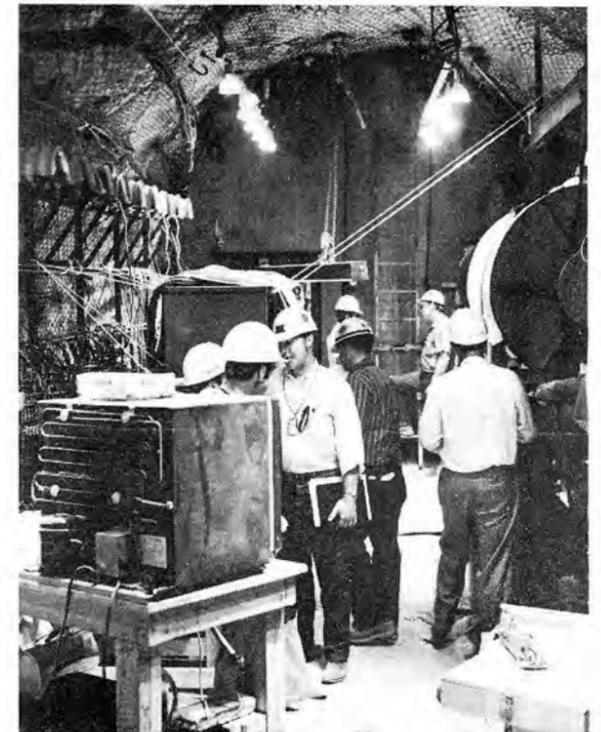
Recently Bob Statler, head of NTS Staff Division 9131, took us on a tour of the tunnels, trailers, CP's and other places where Sandians work at NTS. We show a few of them here. • js



Dick Dye (9131), Hank Kerr (9134), and Hyder Durress (9131) are eyeballing what is called a big door. (not just the opening — the whole thing). It helps seal tunnel.



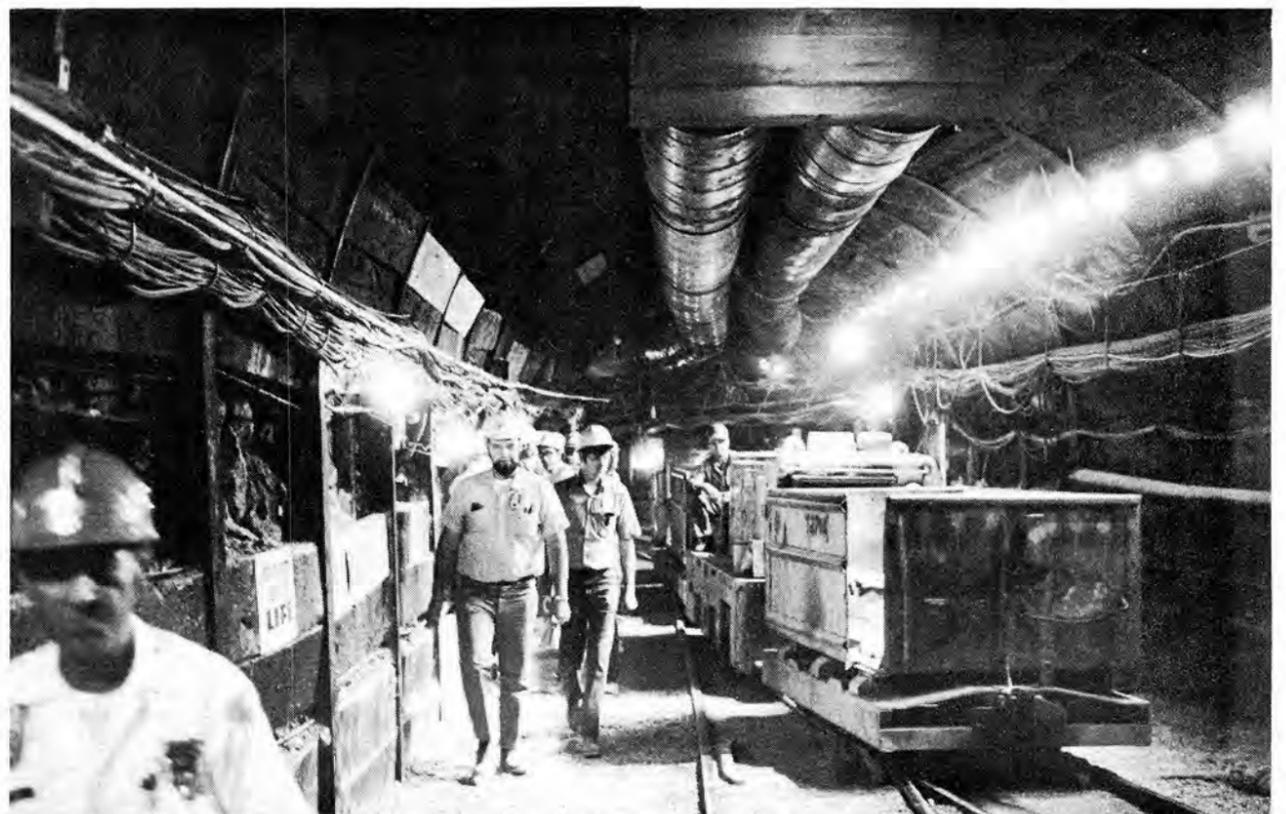
The Super Chief it ain't, but an ore cart beats walking a couple of miles into a tunnel.



Sort of an organized clutter characterizes tunnel work area.



Three veterans of Site operations, Carl Csinnjinni (9123), Larry Larson (9123), and Harvey Miller (9123) check test operations manual.



Deep in tunnel temperature remains in comfortable 70's summer and winter.

Albert Clogston

idea was to get away from the empirical approach to the subject. Materials problems were beginning to demand input from many scientific disciplines, particularly solid state physics."

Then, in 1965, he was promoted to Director of BTL's Physical Research Lab, a position held until his move here. One person assigned to that Laboratory was Sol Buchsbaum, Mr. Clogston's predecessor at Sandia. "Sol worked briefly for me there, then sort of shot by like a rocket. He's really moving. . ." remarked the VP.

The 54-year-old scientist, his features set off by a generous amount of grey to white hair, speaks intensely and conveys a no-nonsense approach to most things. His pursuit of science is virtually all-encompassing, and interests outside of his immediate work are generally scientifically oriented. For example, much time has been spent in recent years on various committees concerned with the direction and content of technical education.

But even the total scientist does things just for fun and we learned that Al Clogston is high on SCUBA diving, especially in the Caribbean. Prospects for that are a little thin in New Mexico, but one other hobby is archeology and both Clogstons have several expeditions in mind.

Mrs. Clogston (Molly) is a Barnard graduate whom Al married in 1941 while doing wartime work at MIT. Their two married daughters, who live on the East coast, have three sons between them.

A New England native, Mr. Clogston comes from a family more musically than technically inclined. "My father was a singer — but I'm tone deaf," he says. Following high school, in 1934, Al was able to get federal help and student loans which saw him through MIT. He stayed there till '41 when he got his PhD. His career since is marked by 14 patents and 34 technical articles.

We remarked on the present job market for scientists and engineers and its sorry state. "You know," he observed, "as far back as '64 some of us were advising — or trying to advise — the universities to slow down their growth. But the sky seemed to be the limit in the 10 years after Sputnik and the situation got out of hand." • js

MOLLY CLOGSTON stands with Al in the living room of their Four Hills residence.



Supervisory Appointments

JOHN AYALA to supervisor, Electrical & Mechanical Section 4513-1, effective Aug. 1.

John started at Sandia in January 1956 as a mail carrier. He worked in general stores and later transferred to the electrical section of the maintenance organization. After completing four years of course work in the apprenticeship program of the Union of the Electrical Workers of America he became a journeyman electrician in 1965. John has also taken advantage of Sandia's out-of-hours program, completing 18 courses in the electrical and building fields. On June 30, after successful completion of state examinations, John was awarded a Master's License as an electrical contractor.

He is a native Albuquerquean and graduated from St. Mary's High School. From 1954-56 he was in the U.S. Army, attached to Field Command at Sandia Base. He has been a member of Sandia's Joint Apprenticeship Council for two years.

John and his wife Ana have two children and live at 2632 Georgia NE.



JIM ROBINSON to supervisor of Maintenance Section 4512-1, effective Aug. 1.

Jim came to Sandia in December 1949. He was a warehouseman for a year and a half and then transferred to the refrigeration division. Until his present promotion he has been a refrigeration and air conditioning mechanic.

Before coming to the Labs Jim was in the refrigeration business in his hometown, Muncie, Ind.

He is a graduate of the Industrial Training Institute in Chicago and has completed several courses at Albuquerque-Technical Vocational Institute. From 1945-46 Jim was in the U.S. Navy, serving in the South Pacific.

Jim, his wife Jimmie, and their three children live at 1005 Virginia NE.



* * * *

LOUIS ROPER to supervisor, Plant Maintenance Division 4512, effective Aug. 1.

Lou joined the Laboratories in January 1967 as design engineer with the buildings and facilities design group. He later transferred to the operations engineering organization where he worked in mechanical plant operations. In October 1968, Lou was promoted to supervisor of Maintenance Section. Before coming to Sandia Lou was with the service organization of Honeywell, Inc., at Denver and Albuquerque for 16 years.

He has a BS in electrical engineering from the University of Colorado. During WWII Lou served in the European Theatre from 1943-46 as an x-ray technician in a field hospital.

Lou and his wife Mable Lou have three children and reside at 9713 Mesa Arriba NE.



* * * *

CRAIG JONES to supervisor of Analog Computing and On-Line Systems Division 5425, effective Aug. 1.

Craig joined the Laboratories in June 1961 in the quality control organization. He was with this group for a year, working with the engineering data file. From 1962 until his present promotion Craig has been in Mathematical Services Division. Within this computer group he has been working on solutions of engineering and scientific problems by mathematical analysis. He also worked on the development of programs to handle the Johnston Island data systems.

He received both BS and MS degrees in math from Kansas State University, in 1959 and 1961, respectively. He is a member of the Institute of Electrical and Electronics Engineers.

Craig and his wife Marcella have two children. They reside at 8305 Fruit NE.



Take Note

Sandia Laboratories parents may register their 4- and 5-year-olds for the next term at the Sandia Base Kindergarten through the month of August. The class for 4-year-olds will meet Monday through Friday from 9 to 11 a.m. Two classes — from 9 to 11:30 a.m. and from 1 to 3:30 p.m. — will be conducted for 5-year-olds. Registration fee is \$10 and the monthly cost is reduced to \$20. Call 256-0413 for further information.

* * * *

Dave Chavez (5165), an officer in the NM Motocross Motorcycle Club, reports that their next race program will be held Sunday, Aug. 22, starting at noon. The place is Bearcat Raceway, some 18 miles south on South 10. Bring a picnic lunch and enjoy wild cycle races. Adults a buck and a half, children under 12 for free.

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HILDEGARDE FINK
(7633)



O. J. FOSTER
(3243)

Recreation Notes

FUN & GAMES

The Sandia Labs Flag Football League needs additional players for the '71 season, beginning the end of this month. Interested players should contact league president Leo Webb (7141), tel. 4-7952.

* * * *

Maynard Cowan, Jr. (9320) and his father, Maynard Sr., won the Championship Flight in the annual Four Hills Golf Fiesta. The member-guest tournament was played July 20-24. Maynard invites his father, who lives in Kansas City, to partner with him in this medal play each year and this year, after 11 previous attempts, they took the title with a 293.

* * * *

Winter league play of the Sandia Laboratories Women's Bowling League will begin Sept. 9 at the Holiday Bowl. Interested gals should call league president Gene Cata (7453), tel. 4-1439; or secretary Margie Rico (7631), tel. 4-2053.

—Norma

Service Awards

Aug. 13-Aug. 26

25 Years

Don Shuster (1200), W.J. Howard (1000) and John Fuqua (9132).

20 Years

James Taylor (7121), Raymond Caster (9483), Arthur Cole (7511), Ira Honeycutt (7113), John Chavez (4514), Ken Sutton (3250), Lorenzo Holcomb (7112), Jimmie Otero (4513), Chester Smith (1414), Ottis Short (7142), Nazario Gonzales (4622), K.E. Scranton (9425), James Reed (9463), Mickey Rindone (8274), Farrell Brumley (1935), Jesus Lopez (4511), Ken Finders (8254), Lee Neeley (9124) and Wilbur Drake (7142).

15 Years

Rene Letoruneau (1541), O.J. Foster (3243), Herbert Dykema (7652), Cecil Haynes (7132), Ann Hawk (7133), Lawrence Ivy (5422), C.M. Encinas (4515), Carl Schuster (9235), William Price (9223), Joseph Newton (1414), Ellera Corwin (3231), Thomas Tormey (5322), Fred Snyder (9331), Orville Schurr (4513), Lee Heames (9323), Robert White (7433) and Kenneth Shumway (7625).

10 Years

Audrey Simpson (4331), Charles Herrmann (7542), Vic Ham (8272), John McDonald (5300), Bill Thompson (8251), Brenda Struckman (4154), James McFadden (9312), Marie Luna (3141), Kenyon Nowotny (1812), Robert Martin (1934), Donald Papineau (7545) and Carl Bailey (5422).

• SHOPPING CENTER • SHOPPING CENTER •

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

RULES

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

**FOR SALE
MISCELLANEOUS**

DACHSHUND PUPPIES, AKC reg., small standards, excellent bloodlines, \$65. Laney, 299-8828.

'70 HAIG Ultra irons, \$125, used 2 mos. Stang, 256-7793.

OBOE REED making equipment: mandrels, knives, staples, nylon twine, 6 complete reeds, 2 unfinished reeds. Fisher, 266-2266.

YAMAHA 125 Enduro, 1970, 190 miles, \$425. Barton, 282-3349.

2 LOTS at Sandia Memory Gardens, paid \$795, will consider offer. Lewis, 266-4109 after 5:15.

HOTPOINT elec. 30" range, Custom Crest, approx. \$100. Hofer, 298-3352.

DUCATI, 1970 Desmo Street model, 350cc, 3000 miles, one owner, \$700. Mares, 242-5895.

BASKETBALL backboard & frame for mounting, DeVore, 299-1639.

GARAGE SALE: black wicker chair, wicker tel. table, clothes, patterns, misc., Aug. 14 only, 9 a.m. — 4 p.m., 3113 Bahama NE. Beard.

BOY'S 24" bicycle, new tires & tubes, \$12. Nelson, 264-1674.

NEW METAL LOCATOR, mfg. by Kits Inc., model MD-90, 5-transistor, high gain BFO circuitry, ear phone & batteries incl., \$40. Stuart, 265-7315.

'70 28 ft. **SILVER STREAK** travel trailer, refrig. air, fully equipped, \$7000. Romine, 296-0658.

'70 **HONDA 90** trail bike, 2000 miles in town, \$290. Luethe, 299-9273.

STOCK RACK for lwb pickup truck. Keith, 1-636-2747.

THOMAS ORGAN (Heathkit) w/ lesson records & books, \$300; AR-2 speaker system, birch, \$80; Garrard turntable, \$25. Laursen, 255-5160.

7 1/2 HP Johnson outboard w/aux. tank & 14' square-stern foldboat, \$180 total. Johnson, 298-1011.

GELDING, 9-yr.-old sorrel, rides English, \$200. Harley, 898-0594.

ELEC. CALCULATOR, Friden, fully auto., multiply & divide, \$110 or trade for elec. typewriter. Hansen, 299-2337.

300 SAVAGE, new, \$75; antique oak mantle for fireplace, w/carved columns & beveled mirror, make offer. Schulze, 299-0152.

DINETTE SET, padded swivel chairs (4), round table. Krug, 6204 Woodford Pl., 298-4712.

TIRES, truck, 6.50-16, 6-ply rated, 3 w/about 500 miles, 1 w/about 5000 miles, on rims. Ellison, 298-2978.

ZIG ZAG sewing machine, \$70, w/attachs; sewing table, \$15. Lewis, 296-7896.

ALUMINUM SHELL for '60-'66 Chev./GMC pickup, short-wide-side, insulated, plywood paneled, cab height, \$175. Dalton, 299-3024.

'70 250cc **HUSKY**, \$725. Jewett, 256-3739 after 6.

GERMAN SHEPARD PUPS, black & silver, AKC, pedigree available, ready for homes, 1 female, 5 males, \$50-\$75. Carter, 296-2902 or 299-7231.

LARGE fiberglass garage sink w/stand, faucet & trap; clothesline posts w/wire; 3 rolls concrete reinforcing wire. Snelling, 268-5895.

5 GOODYEAR Lifeguard safety tubes for 6.50 x 13 tires, make offer. Silverman, 298-1308.

FLOOR POLISHER, Kenmore, 4 waxing & polishing brushes, \$15; child's coats, size 3, grey, check, white, \$4 ea. Allen, 268-3654.

SCREEN DOOR, 36" w/protective

grill & complete hardware, \$10. Merritt, 299-1482.

TENT, Coleman Oasis, 10' x 13', outside aluminum frame, 2 doors, 2 windows, screened, \$80. Prew, 296-3815.

BABY CRIB & mattress, used for 1 child, \$25. Conley, 345-2249 after 5:30.

HONDA, 1971 100cc, less than 3 months old, 2200 miles, \$325. Fimple, 296-2925.

CANOPY & BEDSPREAD, white eyelet, for girl's double bed; 2 utility trailers, 4 x 7; boy's spyder bike; dresser. Fenimore, 298-8052.

GARRARD turntable & base, GE arm & cartridge. Schmitt, 296-3267.

A/C CB-XCVR; camping equip.; 40' dog run fence, \$35; will consider some trade or make offer. Padilla, 296-7107.

9 x 12 green nylon braid rug, \$20 or will trade for ping pong table or 26" geared bike. McCoach, 298-5960.

HEATHKIT stereo amplifier, \$25; Heathkit hi-fi FM tuner, \$15; Jensen speaker in cabinet, \$25. Powell, 299-8877.

PLAY PEN; baby bed; round walnut end table; TDC slide projector w/15 trays; Pentax H-3 35mm camera. Hanson, 298-2120.

'69 **KAWASAKI MACH III**. Bridge, 296-2310 after 3.

TWO HORSE TRAILER w/divider, feeder, storage, single axel, 15" wheels, 2" hitch, \$250. Bush, 282-3773.

PUPPIES, part Collie, free, 10 wks. old. Cox, 282-3109.

DINETTE SET w/4 chairs, table 3' x 4' w/o/extension, \$50. Hart, 299-8832.

low mileage, \$1350. Cowham, 268-1046 after 5.

'69 **OPEL** station wagon, 1900cc engine, radio, AT, AC, 30,000 miles, \$1950. Schmierer, 299-2352.

'64 **PONTIAC Catalina** 2-dr. sedan, AT, PS, PB. Meyer, 298-0904.

'70 **MERCURY** Montego, 2-dr., V8, std. 3-spd., red, low mileage, below book for \$2000. Schuster, 255-9833.

'70 **PLYMOUTH** Duster, 340C.I., 4-spd. w/Hurst shifter, white vinyl top, front disc brakes, bucket seats. Gleicher, 265-7131.

'67 **PLYMOUTH** Sport Fury, convert., 44,000 miles, AC, bucket seats, console, PS, radio, AT, \$1689. Ray, 298-0408.

'63 **BUICK** Special, 2-dr., std. trans., floor shift, \$150. Schuch, 298-9924.

COMPLETE '69 factory 427 CID Ford engine; '67 Shelby Mustang w/428 CID engine. Reif, 296-2179.

'63 **CORVAIR** 2-dr., 3-spd., new tires & shocks, \$300. Lipkin, 268-0757.

REAL ESTATE

HOUSE, near stores & bus stop, 123 65th NW. Montoya, 247-1954.

HOFFMAN BRICK 3-bdr., 1 1/2 bath, paneled 550 sq. ft. den, WB fp, 6% FHA loan, \$5500 CTL, 5906 Princess Jeanne NE. Shishman, 268-6368.

MOSSMAN BRICK 3-bdr., 2 1/2 baths, covered patio, gas grill, corner lot, sprinklers, central refrig. AC, landscaped, assume 6% Conv. loan. Gelder, 298-8960.

WANTED

PLAY PEN, folding type. Adams, 268-5943.

BAND SAW in reasonable condition, w or w/o/motor. Church, 282-3853.

NEED RIDE evenings only, Area 1 to near 4601 Douglas MacArthur NE. Neiswander, 344-4745.

CARS & TRUCKS

'62 **FORD** station wagon, 352 V8, AT, PS, AC, \$400. Harnar, 299-3400.

'69 **RAMBLER** 2-dr. sedan, red w/white top, white interior, std. shift, 6-cyl.,

TO RENT: 2-bdr. unfurnished house w/garage & yard, retired couple in modest circumstances. Rutledge, P.O. Box 113, Cedar Crest, NM, 282-3151.

OWNER'S MANUAL and/or maintenance & repair manual for '67 Chrysler Imperial. Almaraz, 299-9654.

'69, '70 or used '71 suburban C10 or C20. Rakoczy, 256-0433.

LADIES set of golf clubs. Garcia, 298-9186.

WORK WANTED

YARD AND PET CARE for a carefree vacation. Miller & Field, 344-1019 or 345-1470.

FOR RENT

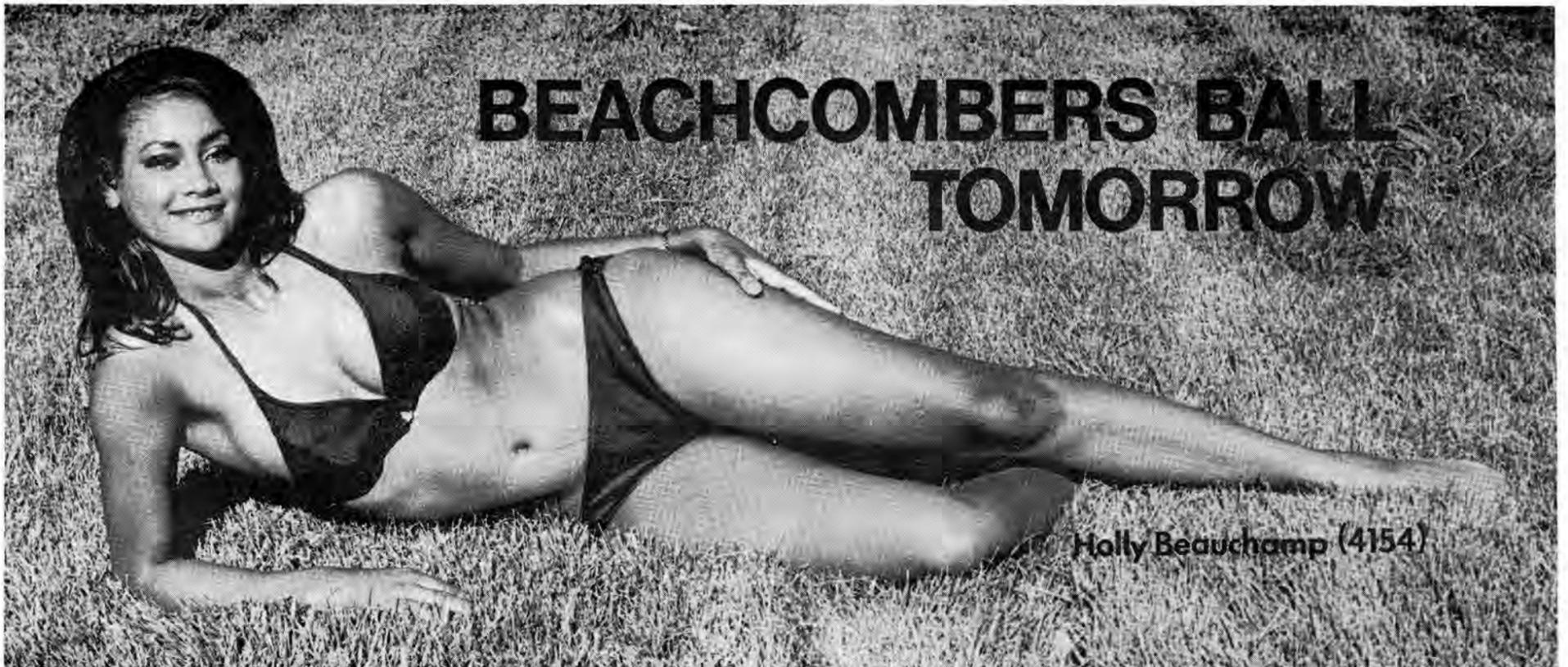
MOUNTAIN CABIN, 1-bdr., partially furnished, 13 miles to Sandia, available Oct. 1, \$90 plus utilities. Souder, 282-3121.

3 BDR., 1 1/2 baths, fp, patio, heated garage, refrig., stove, AC, walled yard, near schools, NE heights, \$195/mo. Rex, 299-6264.

LOST AND FOUND

LOST — Lg. key ring w/10 or 12 keys, brown lens Polaroid glasses. '69 Chev. pickup hub cap, bifocal safety glasses w/grey rims, key ring w/4-5 keys, Rx sunglasses in pink Jones Optician case, wallet w/money & ID cards. **LOST AND FOUND**, tel. 264-2757, Bldg. 832.

FOUND — 2 keys, 1 key, Cool-Ray Polaroid sunglasses w/brown frames, lt. blue windbreaker w/pipe in pocket, man's Timex watch, white beaded rosary, bifocal safety glasses w/brown frames in clip-on case, bifocal safety glasses w/black frames, Rx glasses w/brown frames in brown clip-on case. **LOST AND FOUND**, tel. 264-2757, Bldg. 832.



BEACHCOMBERS BALL TOMORROW

Holly Beauchamp (4154)

Coronado Club Activities

'Biggest Blast' Set Tomorrow at Club

The ghost of Bob Banks eased into the LAB NEWS office. "Help," the shell of a man whispered.

What's happening? we queried.

"My image is gone," the thing said. "I used to be a wildman. Life was fine. I played a red Yamaha electronic organ with the Terror Trio and we broke things up at Happy Hours and like that."

Shall we get out the violin and play background music for this terrible tale?

"No, man," it said. "We just gotta drop this neat and straight bit. If I can't be a wildman, I can't be anybody."

OK, Bobby baby, you are a wildman. You are the original wildman and you will be playing Happy Hour tonight. We will tell the world.

"Beware," the scream echoed down the corridors of Bldg. 802. "Wildman Bob Banks rides again!"

* * * *

TOMORROW NIGHT the year's biggest blast starts at 6 p.m. with mai tai and scorpion type cocktails in coconuts. The Beachcombers Ball is one of those evenings where anything can happen. Dinner will be great — barbequed beef, baked salmon, fruit, salads, etc. — and the entertainment will be outstanding. Big Tiny Little will play for dancing and the show is worth seeing. Sarongs, bikinis, grass skirts, beachcomber clothes and wild field test sport shirts are in order. The life guards will be on duty in case someone gets tossed in the twin pools. Odds are that someone will get tossed in. Tickets are \$3.75 for members, \$4.25 for guests.

* * * *

NEXT SATURDAY, Aug. 21, will be an all day family affair in the patio and twin pool area. The Club's annual water carnival starts with recreational swimming at 11 a.m. Swim contests and games for kids of all ages are scheduled for the afternoon. Happy hour prices will be in effect all day.

The Coronado Aquatic Club will present a swimming and diving exhibition and some water clowns will entertain.

About 6:30 p.m. the UNM Pep Band and Loboettes will perform. In addition to marches and concert selections, the band will present several dixieland and polka combos performing novelty numbers. The Loboettes will perform a Hawaiian review among other things. Admission is free to members.

* * * *

CORONADO FILM SOCIETY will meet Thursday, Aug. 26, at 7:30 p.m. to see a famous Japanese movie called "Yojimbo." This classic warrior tale took a couple of first prizes at the Venice Film Festival.

* * * *

CHET FORNERO (4337) is the new Club president, elected after the new board came into office following the Club's annual meeting. Chet was reelected to the board along with Pete Gallegos (1333) who will be vice president. Also reelected was Dick Coughenour (4115), treasurer. New members of the board include Shirley Dean (50), John Wheeler (3251), and John Malmstrom (AEC), elected secretary to the board.

SOUL SESSION EXTRAVAGANZA last month was so much fun that Pete Gallegos, Club entertainment director, booked another one to close out the August calendar. Rod King and the Soul Knights, Freddie Williams and the Screaming Yellow Zonkers and the Top Three will alternate the musical chores while the troops do their thing in the ballroom, dining room, patio and twin pools. It was a blast last month, should be better this month. Admission is free to members. Happy Hour prices will be in effect.

* * * *

SWIM CLASSES — from pre-beginners to advanced swimmers — have openings. You can still sign up for the last instruction sessions. Call the pool office 256-2406, for more details. Instruction fee is \$5.

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A SWIMMING MEET for adults 25 and older will be held Wednesday, Aug. 25, starting at 5 p.m. in the twin pools. Called a Masters Swimming Meet and sponsored by the Coronado Aquatic Club, the contest will feature competitive swimming events for age groups 25-34, 35-44, and 44 and over for both men and women. For information contact the pool office.

* * * *

SEATS are still available for the Coronado Club charter bus to Lubbock Sept. 17-19 to see the Texas Tech - Lobo football game. Deadline for registration is next Wednesday, Aug. 18. The package costs \$49.50 and includes game tickets and two nights at the Ramada Inn in Lubbock.

"We may have to cancel this one," Chet Fornero, Club president, says, "if we don't sign up about 20 more people right away."

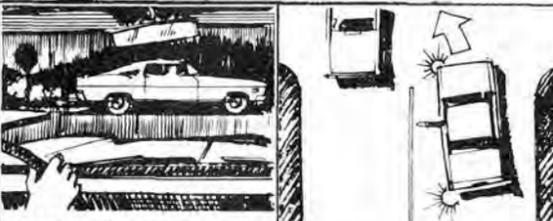
THE MAZATLAN PLANE is about full, Chet reports, but a few seats are still open. This 8-day luxury package, scheduled Oct. 5-12, costs \$198.50. Sign up at the Club office.

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JUNIOR BOWLERS will organize for the coming season at a meeting tomorrow at noon in the Club patio. Youngsters up to age 15 may participate in the league. Hamburgers and refreshments will be served tomorrow and swimming will follow the meeting. Call Cis Kelly (3113) at 299-3700 if you have questions. • dg

THE SAFE DRIVER

NEARLY 1/4 OF ALL FATAL AUTO ACCIDENTS OCCUR AT INTERSECTIONS!

THE SAFE DRIVER IS ALERT TO OTHER DRIVERS IGNORING TRAFFIC LIGHTS AND STOP AND YIELD SIGNS, MAKING SUDDEN TURNS AND SKIDDING ON ICY OR WET PAVEMENTS AT INTERSECTIONS!

WHEN MAKING A TURN AT AN INTERSECTION, GET INTO THE PROPER LANE WELL IN ADVANCE, SIGNAL YOUR INTENTION, AND WAIT FOR OPPOSING TRAFFIC TO CLEAR!