Affirmative Action and the Labs
— See Page Two

LAB NEWS

VOL. 26, NO. 18 AUGUST 30, 1974

NEW AFFIRMATIVE ACTION PLAN booklet will be distributed next week. The cover, drawn by artist Jim Walston (3115), is reproduced above. Models are (from left) Ada Jane Akin (5000), James Cordova (3612), James Robinson (9712), Joe Allan (3647), Charlein Birner (2000), Ed Spriggs (3155) and Vanessa Haggerty (2000).

New Affirmative Action Booklet To Be Issued

A new booklet describing Sandia's Affirmative Action Plan and President Morgan Sparks' policy statement on Equal Employment Opportunity will be distributed next week.

In issuing the booklet, President Morgan Sparks commented on last fall's AEC Compliance Review. He summarized the recommendations of the review as follows:

"We must do a more detailed job of planning and monitoring our Affirmative Action Plan. We must do a more effective job of communicating our plans to all of our employees. We must be more aggressive in the employment and development of our minority and women employees."

In FY '74 Affirmative Action Planning, hiring goals were substantially exceeded in all job categories. Of promotions, 39 percent went to minority representatives and 28 percent went to women.

President Sparks reports that the 1975 Affirmative Action Plan is carefully worked out and is a good one.

"I want to emphasize Sandia's total commitment to the ideals of Affirmative Action and Equal Opportunity," he says. "Continued close attention to our manner of doing business, particularly in the area of personnel actions, is required. . . . At the end of the fiscal year I want us to be proud of our accomplishments in carrying out the Plan. This can happen only when Sandians work together with conviction and understanding of common goals."

LAB NEWS

Published every other Friday

SANDIA LABORATORIES

An Equal Opportunity Employer

ALBUQUERQUE, NEW MEXICO
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gerse martinez lends a hand
&
lorena schneider reports on livermore

Credit Union Reporter

BOARD ANNOUNCES NEW DIVIDEND AND INTEREST RATES

By Earl Simonson, President

Reflecting the changing economic conditions, the Board of Directors announces its intent to declare a 6½% dividend rate at the end of this quarter, with the hope of being able to increase the dividend rate still further next quarter. Additionally, the Board announces these new loan interest rates, to take effect Sept. 1:

Aircraft	10.8%
Automobiles	9.6%
Boats (Pleasure & House Boats)	9.6%
Furniture & Appliances	10.8%
Life Insurance	9.0%
Mobile Homes	9.6%
Motorcycles	10.8%
Motor Homes	9.6%
Passbooks & CD's	9.6%
Real Estate (First Mortgage)	9.4%
Real Estate (Second Mortgage)	10.8%
FHA Title I	8.4%
Shares (Credit Union)	8.4%
Signature	10.8%
Stocks, Bonds & Mutual Funds listed in Wall Street Journal	9.0%
All Others	10.8%
Student Loans	7.0%
Travel Trailers & Campers	9.6%

Effective immediately, the regular share account limit and the custodian account limit have both been raised to $20,000; this is the maximum amount insured by the National Credit Union Administration.

Additional safe deposit boxes are now available. Sizes and rentals (per year) are as follows:

2"x5"x24"	$ 4.00
3"x5"x24"	6.00
5"x5"x24"	8.00
3"x10"x24"	10.00
6"x10"x24"	15.00

BOB HARTENBERGER (9718) on location.

For Remote Area Power

You Gotta Have Hart(enberger)

Bob Hartenberger (9718) is the man with the truck that carries the fuels (and lubricants and tools) that enable the generators to go on generating and the heavy equipment to go on moving in Area III, Coyote Canyon, and other remote areas.

Bob's is a responsible position, and he's a good man for it. First of all, he knows machinery (used to be a mechanic in the Area I motor pool). Second, he likes his job — "If I were any more content, I'd be ecstatic."

He's been out there almost 20 years, so he knows the territory too — all 32,000 acres of it. Much of it is mesa, but it's the mountains he prefers — Lurance Canyon, Sol Se Mete Canyon, the almost inaccessible places.

He fuels, lubricates, maintains, repairs, and checks out 40 portable generators plus 15 stand-by units and a wide array of heavy equipment. He's a busy man — he covers about 50 miles a day in all kinds of weather, over all kinds of terrain.

One particularly tough location to get a three-ton truck into is the top of a steep knob in Lurance Canyon. An airbrake system ruptured as Bob eased down it one day. The brakes locked (as they were designed to do in failure) so the terror was momentary. But the knob is now known as Hartenberger Hill.

Bob has left his mark on Sandia.

Retiree Pensions Increased

Sandia Labs announced this week that pensions are being increased for some 1200 retired employees. Their present pensions will be increased by 0.2% for each month of retirement prior to January 1, 1974, the effective date of the increase. A lump sum payment for the period January through September 1974 will be mailed in early September. Pension checks starting with October 1974 will reflect the appropriate increase. Under the adjustment plan there will be a minimum increase of $5.00 per month for all retirees affected.

Here's how the increase works:

Two employees, who retired on June 1, 1968, both have 67 months of retirement prior to January 1, 1974. In this example, assume that one employee has a fixed annuity of $200 per month and the second has a fixed annuity of $100 per month plus 100 variable annuity units. The new monthly annuities for these two retirees will be computed as follows:

Fixed Annuity

1. 67 (months) x 0.2% = 13.4% (total percentage increase)
2. $200 (monthly pension) x 13.4% = $26.80 (total dollar increase)
3. $200 + $26.80 = $226.80 (monthly pension effective January 1, 1974)

Fixed Annuity Plus Variable Annuity

1. 67 (months) x 0.2% = 13.4% (total percentage increase)

2a. $100 (monthly pension) x 13.4% = $13.40 (total fixed annuity increase)

2b. $100 + $13.40 = $113.40 (monthly fixed annuity pension effective January 1, 1974)

3a. 100 (variable units) x 13.4% = 13.4 (total variable unit increase)

3b. 100 + 13.4 = 113.4 (total variable annuity units effective January 1, 1974)

3c. 113.4 x variable annuity value = monthly variable annuity amount

4. $113.40 (fixed annuity amount) + monthly variable annuity amount = total monthly pension.

A letter explaining this adjustment is being sent to all retirees whose pensions will be adjusted.

For Space Shuttle

Labs Working on NASA Booster Rocket Recovery

Key element in America's space shuttle program is the reusable vehicle that will haul people and supplies between earth and an orbiting space laboratory. Current NASA planning calls for the shuttle vehicle to carry two recoverable booster rockets in addition to the main shuttle engines. Sandia is aiding NASA with preliminary design of the recovery system for the booster rockets.

The work is centered in Deceleration and Recovery Systems Division 5626 under Dave McVey. Dean Wolf (5626) is project engineer.

"Sandia is serving as a consultant on the project," Dave says. "We are evaluating the preliminary designs that NASA has proposed, proposing alternatives, analyzing the system deployment dynamics and parachute structure, and helping design the system test program.

"Sandia was chosen for the job because we have designed and tested some of the largest ribbon parachutes ever built. During the Test Readiness Program we dropped many 76-ft. diameter ribbon 'chutes with 22,000 to 45,000 lb. payloads. We have the largest collection of parachute data applicable to the shuttle recovery design."

Stan Meyer and Steve Benzly (both 1542) are performing the structural analysis of the parachute system. Gene Meyer (5625) and Wayne Sundberg (5626) are developing new computer techniques for modeling parachute deployment and inflation dynamics. Others contributing to the project include Harold Spahr (5625) and Ira Holt (5626).

The preliminary NASA design of the solid fueled boosters calls for two cylinders — 13 ft. in diameter, 169 ft. long — with a liftoff weight of just over 1.1 million lbs. each. Liftoff thrust of 2.9 million lbs. will be produced. The boosters will separate from the shuttle at an altitude of about 22 nautical miles and splash into the ocean downrange around 120 miles. They will have a recovered weight of about 160,000 lbs. Entering the atmosphere at a high angle of attack, the boosters will have a velocity of about 4000 ft. per second. Drag will reduce the velocity to about 800 ft. per second by the time the boosters fall to about 20,000 ft., when the recovery operation is initiated. A 54-ft diameter drogue parachute will stabilize the vehicle before the main cluster of three 104-ft. diameter parachutes is deployed. These will slow the booster to about 100 ft. per second for impact.

DRAWING shows one of the booster rockets of the space shuttle with full deployment of the main parachute array. Sandia is aiding NASA with the design and development of the recovery system for space shuttle booster rocket.

Recovery of the boosters, estimated value about $2 million, will save the space program some half-billion dollars over a decade.

"Once NASA contracts for the boosters," Dave says, "Sandia will continue to act as a consultant in the program."

THE GRADUATES — After four years of work and study, these young men have completed the Labs' Electronic Apprentice program. They are, from left, Bill Redding, Ernest Aguilar, Instructor Bennie Montoya, Leroy Holmes, and Jim Cordova. The four have assignments in Electron Fabrication Division 3616.

Air Force Academy Band Presents Concert Sept. 6

The Air Force Academy Band from Colorado Springs, Colo., will present a concert in Albuquerque Sept. 6 at 8 p.m.

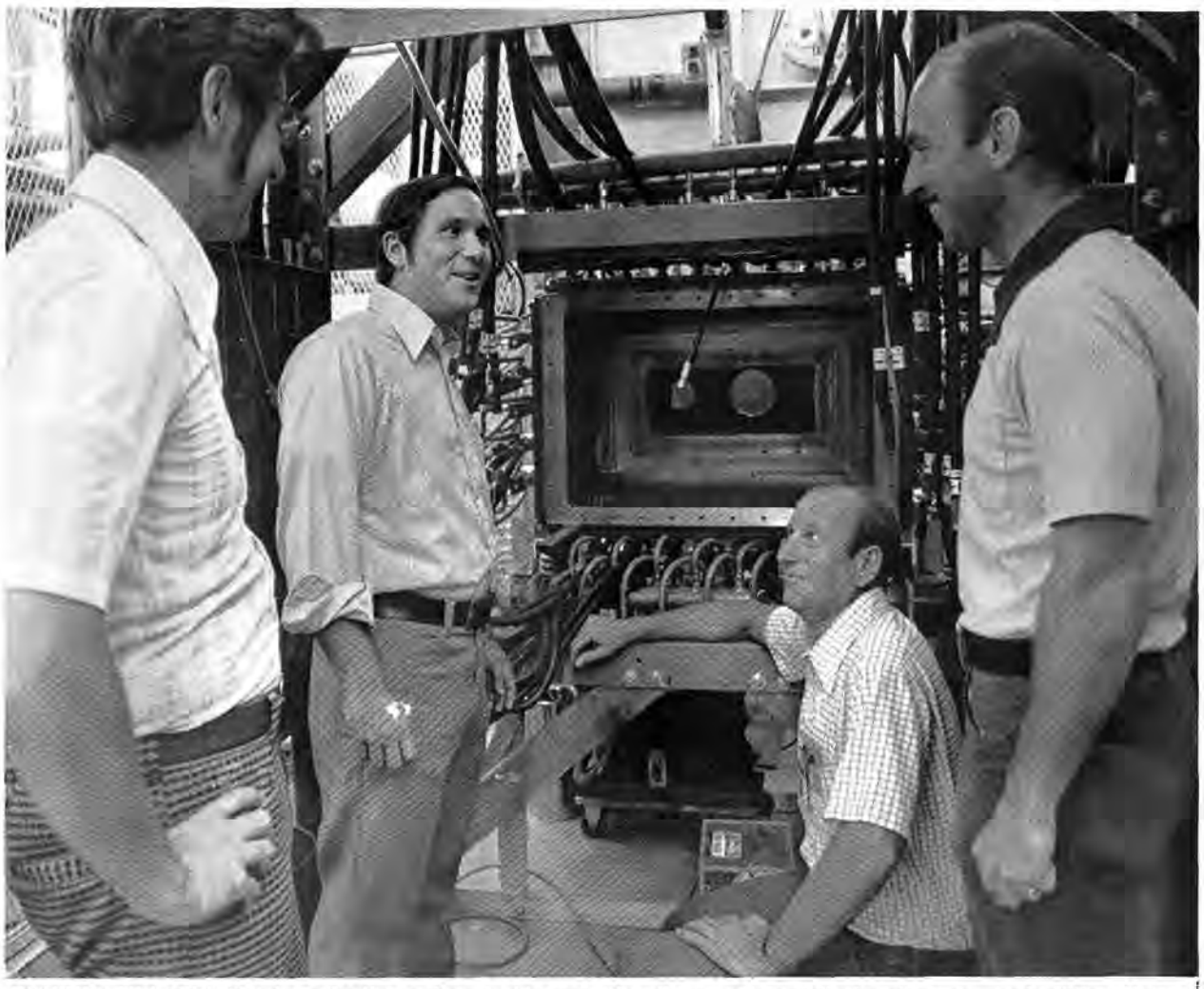
Sponsored by the Albuquerque Chapter of the Air Force Association, the concert will be held in the auditorium of the Albuquerque Convention Center.

The band is composed of three separate musical groups and includes a concert band, a stage/dance band called the Falconaires, and a newly formed rock ensemble named Firebird.

Free tickets for the concert may be obtained by sending a stamped, self-addressed envelope to Air Force Association, Box 5051, Kirtland AFB, N.M., 87115, or from Ralph Wilson (3620), president of the Albuquerque chapter.

LIVERMORE NEWS

VOL. 26, NO. 18 LIVERMORE LABORATORIES AUGUST 30, 1974



DURING THEIR STUDY of applications of neutral beams, Sandia scientists visited various source facilities. Here at LLL's facility are (from right) Ron Musket, Walt Bauer and Pete Mattern (all 8334) and George Thomas (8313).

Neutral Beams: A New Tool

Neutral beam sources and their possible applications are the subject of a study, prepared by a group of Sandia scientists, that was sponsored by AEC's Division of CTR (controlled thermonuclear reactor) Research. The study covers materials research, several areas of solid state and atomic physics, and various manufacturing and fabrication processes. Headed by Walt Bauer of Physical Research Division 8334, the study group includes Pete Mattern and Ron Musket (both 8334), Bob Schmieder (8342), George Thomas (8313), and Errol EerNisse (5112).

An extensive program to increase the power of neutral beam sources for controlled thermonuclear reactor work is already underway at the Oak Ridge, Lawrence Berkeley, and Lawrence Livermore Laboratories. The neutral beams would be used for the heating and fueling of CTR plasmas.

In the CTR application, energetic particles produced by the powerful neutral beam sources transfer their energy to the plasma directly. "In order to penetrate the magnetic field which confines a plasma, the beam must be neutral," explains Walt. "The neutral state is achieved by passing the ions through a charge exchange cell after acceleration to the desired energy."

Until now neutral beam sources have been limited to hydrogen and deuterium beams. Walt observes, however, ". . . that we assumed in our study that neutral and ionic beams of helium, nitrogen, oxygen and argon particles can also be produced."

After examining their list of potential applications, the group concluded that the most direct applications of neutral beams appears to be in studies of radiation damage in metals and insulators. The high currents and large beam areas of these sources make them ideally suited for simulating CTR and other radiation environments. For example, long term effects of particle bombardment on the wall of a fusion reactor could be simulated in the laboratory in a short time. Furthermore, entire components could be tested within the large beam area.

The study indicates as promising the use of neutral beams for pumping lasers and masers as well as for the production of neutrons and x-rays. Additional possibilities include their use for the machining of glasses and ceramics and implantation processes in metals and semiconductors.

Two Sandians Discuss Jobs With Young People

Sandia supervisors Evelyn Foote of Secretarial and Clerical Development Section 8212-1 and Joe Genoni, Material Storage and Control Section 8256-2, visited the three Livermore and Pleasanton high schools recently and spoke to some 120 students in this summer's Neighborhood Youth Corps program. Through the federally funded NYC program, jobs at $2 an hour are made available to financially disadvantaged youth, ages 14 through 21.

Evelyn discussed the current labor market, how to apply for a job, employment possibilities and skills requirements. Joe talked on learning a job, advancement opportunities, what constitutes good job performance and personal attributes.

Speakers

Harry Saxton and Ben Odegard (both 8314), "Notch Sensitivity of Beryllium Products," Western Metal and Tool Conference, Los Angeles, March 11.

Bill Wilson (8341), "Point Defects Produced by Ion Implantation in Metals," Joint Solid State and Metallurgy Seminar, Brookhaven National Laboratory, Upton, N.Y., March 22.

Monte Nichols (8314), "Reordering the JCPDS Magnetic Tape File Improves the Efficiency of a Computer Search-Match Program," American Crystallographic Association Spring Meeting, Berkeley, Calif., March 27.

Bob Schmieder (8342), "Multiple Ionization of Atoms by Successive Electron Impact," Stanford Research Institute Seminar, Stanford, Calif., April 30.

Walt Bauer (8334), George Thomas (8314) and Bill Wilson (8341), "Formation of Blisters During Hydrogen Isotope Irradiation," First Topical Meeting on the Technology of Controlled Nuclear Fusion, San Diego, Calif., April 16-18.

Jim Shelby (8334), "Gas Migration in Glass," New York State Foundation of Arts and Science Glass Conference, Rensselaer Polytechnic Institute, Troy, N.Y., April 3; and graduate seminar, Alfred University, Alfred, N.Y., April 4.

Pete Mattern (8334), "Effects of Cobalt 60 Gamma Ray Irradiation on Fiber Optics Materials"; Jim Shelby (8334), "Viscosity and Thermal Expansion of Alkali Germanate Glasses"; and Jim Shelby and Pete Mattern, "Deuterium Migration in Vitreous Silica," American Ceramics Society 76th annual meeting and exposition, Chicago, Ill., April 28-May 1.

Pete Mattern (8334), Ed Barsis, Cliff Skoog and Larry Watkins (all 8342), and Jerry Brandon (5811), "Effects of Radiation on Glass and Plastic Optical Waveguides," Fourth Symposium of Nuclear Survivability of Propulsion and Ordnance Systems, Seattle, Wash., April 23-25; and "Radiation-Induced Absorption and Luminescence in Glass and Plastic Optional Waveguides," DOD/Industry-Wide Integrated Optics and Fiber Optics Communication Conference, San Diego, Calif., May 15-17.

Ray Bertolotti (8312), "Strength and Absorbed Energy in Instrumented Impact Tests of Polycrystalline Alumina," and Invited Panel Discussion, "Fracture Mechanics of Ceramics and Glasses: Recent Progress, Experimental Methods and Expectations for Use," American Ceramic Society Annual Meeting, Chicago, Ill., April 28-30.

Vern Gabrielson (8322), "Graphics Applications for Finite Element Code Processing," and Herb Turnbull (8323), "Two Applications of Data Analysis by Interactive Graphics," Second Annual AEC Scientific Computer Information Exchange meeting, Brookhaven National Lab, N.Y., May 2-3.

John Smugeresky (8312), "Effect of Hydrogen on Mechanical Properties of Iron-Base Superalloys"; Harry Saxton (8314), "Fracture Toughness and Microstructure of Uranium Alloys"; and Ben Odegard (8314), "Room Temperature Creep of Ti-6A1-4.V," Sixth Annual Spring Meeting of the Metallurgical Society of AIME, University of Pittsburgh, May 19-23.

Dennis Rathbun (8040), Testimony on "Nuclear Plant Capacity Factors, Generation Costs with Alternative Fuels, and Costs of Emergency Planning and Evacuation in the Event of a Design Basis Accident," Public Hearing before the Atomic Safety and Licensing Board (AEC) for the operating license for Three Mile Island Nuclear Plant, a 1750 megawatt generator (applicant, Metropolitan Edison Co., Harrisburg, Pa.).

Charlie Landram (8111) and Dan Hartley (8115), "Transient Forced Covection During Dual Chamber Combustion," American and Canadian Societies of Mechanical Engineers Joint Fluids Engineering Conference, Montreal, Canada, May 13-15.

Hilary Jones (8322) and Wes Estill (8314), "Electron Microprobe Computer Image Enhancement," Sandia Livermore Technical Seminar Series, May 28.

Bob Huddleston, Tom Jefferson and Jim Lathrop (all 8322), "Data Fitting," Sandia Livermore Technical Seminar Series, April 2.

Jim Lathrop (8322), "Computer Languages," Computer Programming Class, Livermore High School, May 29.

Bob Schmieder (8342), "Application of Relativistic Electron Ring as a Containment Device for Highly Strapped Ions," Plasma Scientific Conference, University of Tennessee, May 17.

Jim Shelby (8334), "Molecular Diffusion in Glasses and Oxides," Ninth Annual University Conference on Ceramic Science, Case Western Reserve University, Cleveland, Ohio, June 4.

Variable Annuity Unit Value

September	1.253
August	1.361
Average 1973	1.752

Shark Attack

The 10,000 to 1 Shot

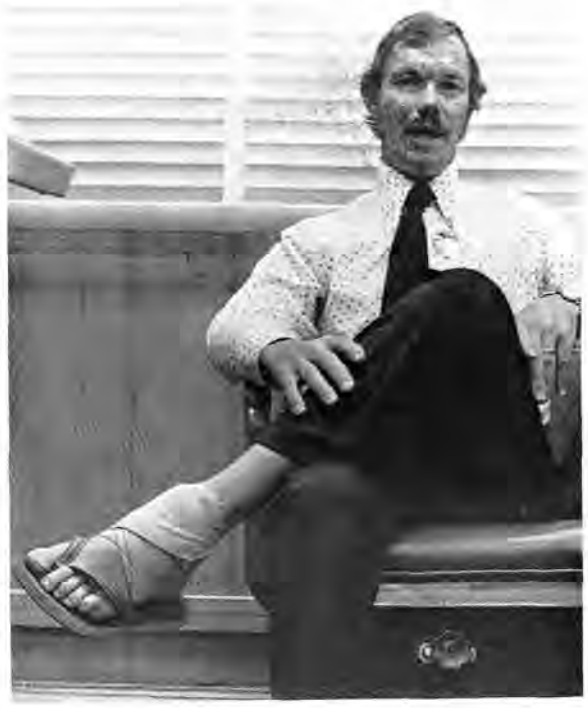
Whether you encounter a loan shark or a real shark the results can be painful, but in different ways. Bob Kehl (9516, assigned to Livermore) had the "bite" put on him by a shark 15 feet down in the Pacific, where even loan sharks fear to tread. Here's his story.

"We arrived at the diving area, north of San Francisco near Fort Bragg, about 3:30 in the afternoon. The weather was good and the sea extremely clear and calm. After putting on my wet suit I paddled with the aid of my dive boat across a channel to investigate a protruding rock formation, which under normal circumstances would be impossible to reach because of the heavy sea. My partner was nearby to spear fish.

"After investigating the rock formation I started back across the channel to search for abalone. As I reached the bottom, about 35 feet down, I spotted an abalone but I didn't have enough air so I returned to the surface. (Kehl and his partner are "free" divers — no air tanks.) After getting my breath I started down again. At about 15 feet I felt a light tug on my left foot. I quickly turned to see what had touched me and found myself staring at the side of an eight foot shark. It passed directly in front of me, a great black and white mass, so close that I jabbed it with my spear gun just to ward it off. The hulk never flinched, just swam off at a leisurely pace. At first I thought it was a killer whale from the markings, but once I saw the sharper snout, shorter dorsal, and the vertical tail fin, I knew it was a shark.

"My immediate thought was for my partner. There were probably more sharks in the area and if he was spearing fish this would attract them. I swam rapidly toward my dive boat, then realized that wasn't the right thing to do, so I turned and faced the direction in which the shark had gone and swam toward my partner's boat yelling, 'shark.' Fortunately he was nearby and we both tumbled into his boat. I then transferred to my boat and we came ashore.

"Throughout the adventure I had felt no pain. But when I took my boot off I discovered blood mixed with salt water, plus a large gash in my left foot. The shark's teeth are probably about an inch and a half to two inches long in two prominent rows, and a very lucky thing had happened — when the jaw closed, the two large teeth directly over my foot either weren't there or had broken off, otherwise my foot would have been almost severed. The 18-inch arc of slash marks across my fin was marked in this area only by an abrasion. My partner drove me to Fort Bragg where the doctor gave me a tetanus shot and sewed up the wound. It took 10 stitches."



BOB KEHL displays bandaged foot, the result of his encounter with an eight-foot shark in the Pacific.

Sharks are not normally found in that area. Bob speculates a shift of the Japanese current, toward shore, may account for the shark's appearance. He also suspects that the shine from the buckle on his new diving fins may have drawn the shark to him.

Of 10,000 sharks, experts say 100 will come within man's vicinity, 10 will circle, only one will attack. For Bob it was the one in 10,000. Will he go back? "Yes." Will he dive in the same area? "No."

Authors

Jack Dini, Rudy Johnson and John Helms (all 8312), "Nickel-Plated Uranium: Bond Strength," PLATING, Vol. 61, p. 53.

Jack Dini and Rudy Johnson (both 8312), "Joining by Electroplating," METALS ENGINEERING QUARTERLY, Vol. 14, No. 1, p. 6.

Ken Marx (8341), "Multiple Dielectric Relaxation Time in an Irradiated Transmission Line," IEEE TRANSACTIONS OF NUCLEAR SCIENCE, Vol. NS-20.

Jim Shelby (8334) and Stewart Keeton (8333), "Temperature Dependence of Gas Diffusion in Glass," JOURNAL OF APPLIED PHYSICS, Vol. 45, No. 3.

Ron Wishart (8252), "Pressure Gages — How Safe Are They?", PROCESS DESIGN NEWS, April 1974.

Bob Schmieder (8342), "Doppler-Tuned X-Ray Spectrometer," REVIEW OF SCIENTIFIC INSTRUMENTATION, Vol. 45, p. 138.

George Thomas (8313) and J.A. Venables (University of Sussex, England), "Stereo-Electron Microscopy of Low Energy Ion Bombarded Gold," PHILOSOPHICAL MAGAZINE, Vol. 28, p. 1171.

Marty Abrams (8111), "The Effects of Radiative Heat Transfer Upon the Melting and Solidification of Semi-Transparent Crystals," THE JOURNAL OF HEAT TRANSFER, May 1974.

Bill Ashurst (8115) and W.G. Hoover and R.J. Olness (both LLL), "Two-dimensional Computer Studies of Crystal Stability and Fluid Viscosity," JOURNAL OF CHEMICAL PHYSICS, May 1974.

Dan Hartley (8364), "A Focused Multiple-Pass Cell for Raman Scattering," JOURNAL OF APPLIED OPTICS, January 1974.

Jim Shelby (8334), "Effect of Structural Relaxation on Helium Diffusion and Solubility in Vitreous B_2O_3," JOURNAL OF NON-CRYSTALLINE SOLIDS, Vol. 14, p. 288-99.

Jim Shelby (8334) and Stewart Keeton (8333), "Pressure Dependence of Helium Permeation Through Vitreous Silica," JOURNAL OF AMERICAN CERAMIC SOCIETY, Vol. 57, No. 1, p. 45-46.

Ted Dellin (8341) and Crawford MacCallum (5223), "Analytical Prediction of Photo-Compton Emission Currents," IEEE TRANSACTIONS OF NUCLEAR SCIENCE, Vol. NS-20.

Congratulations

Michael Pendley (8334) and Deborah Erhardt, married in Glendive, Mont., July 20.

Mr. and Mrs. Tom Jennings (8332), a son, Sean Palmer, July 30.

Sympathy

To Joe Calim (8257) on the death of his mother in Vandalia, Ohio, July 30.

Take Note

For the third year, Dave Abrahams (8413) and his wife Jolene are coordinating the local Jerry Lewis Labor Day Telethon for the benefit of the Muscular Dystrophy Association, an organization Sandians support through LEAP. Featuring stage, screen and television people, the show will be broadcast live from Las Vegas and can be seen in the Livermore Valley on KBHK Channel 44 and KNTV Channel 11 from 6:30 p.m. Sunday, Sept. 1, to 3:30 p.m. Monday, Sept. 2.

Dave says the $18,000 pledged in the area last year is expected to be doubled through expanded coverage. If you're interested in serving as a volunteer at the pledge center, call him or Jolene at 447-9386.

Two YOTs Receive Scholarships

Two students who have been working at Sandia/Livermore as Youth Opportunity Trainees have been awarded scholarships to pursue their studies this fall.

Melda Basurto, a clerk typist in Engineering Services Division 8433, and Louise Hara, a laboratory helper in Exploratory Materials Division 8313, each received scholarships, based on academic achievement and financial need, from the local American Business Women's Association for $300 and $200, respectively; California Educational Opportunity grants for $900 and $2500, respectively; and $500 supplemental Federal educational grants.

In addition, Louise received a $260 tuition scholarship from Pepperdine University at Malibu, where she plans to major in religious journalism or Christian education. She has already completed two years at California State University at Hayward.

Melda, a trainee for two years under Sandia's Work Experience Program, is a June graduate of Granada High School and expects to major in business administration at California State University at San Jose in September.

YOTS Melda Basurto (8433), left, and Louise Hara (8313) discuss their fall college plans.

THE LA LUZ CONTINGENT of the Sandia Runners Ass'n. recoups after annual running of La Luz Trail Race, 7½ miles up to 10,600-foot Sandia Crest. Standing, from left, Bill Kass (5834), Pete Richards (5132), Jim Tollison (AEC), Jim Harrison (4731), Joe Abbott (2112), and Al Arsenault (9550). Lower row, Mark Percival (2411), Steward Kohler (2326), Henry Dodd (4751), Bob Fox (2325), Larry Johnson (1564), and John Shunny (3162). Percival led SRA pack with 1 hr. 21 min. time. Also finishing but not pictured were Larry Posey (5226) and John Hiller (2134).

Recreation Notes

FUN & GAMES

Golf — Highlight of the recent SGA(W) 36-hole Short Course Tournament, played at Los Altos, was a hole-in-one by Liz Bookwalter (9631). Liz was low net winner in the second flight and says the hole-in-one on the 100-yard, par 3 hole was a real thrill.

Other winners were: First Flight — low gross, Betty Chappell (ret.); low net, Gloria Martinez (AEC/ALO); low putts, Ann Michele (3100/9700). Second Flight — low gross, Kathy Brady (212); low net, Liz Bookwalter; and low putts, Dora Montoya (1542).

* * * *

Flag Football Ass'n. — The West Side Community Center is coordinator for the flag football league this season. For more information call Ted Montoya (3621), ext. 8892 or Joe Maez (3613), ext. 3346.

* * * *

Sandia Bicycle Ass'n. — Citations will be issued to cyclists at the Wyoming Gate who enter against traffic, i.e., in the north-bound lane. This from the Provost Marshall. Reason: Too many near misses at Club Rd.

Gordon Pike (5155) reports that a bicyclist's version of the Mountain Safety Research (MSR) climbing helmet is now available. Construction is the same, but the helmet is about 10% lighter, better ventilated, and more streamlined. Earlier this year, after a study of many different helmets, Gordon concluded in his report on the subject that the MSR helmet was by far the most appropriate for cyclists, especially from the standpoint of impact resistance. The new helmet may be purchased at Back Country Sports or at Pedal 'N Spoke for $24 retail (although Gordon states that Back Country offers a discount to SBA members). At last count, more than 75 SBA'ers were wearing the MSR helmet.

Bicycle weight: have you ever weighed your bike? If it's 35 pounds or more your cycling is about like a man running in rubber boots — possible but difficult. Good quality bikes will weigh 27 or so pounds, top quality around 22 depending upon frame size. Of course, if you want to go all out, you'll need a titanium bike — about 18 pounds. Bike World has a titanium frame; the frame alone goes for $395.

Starting time for Don Bliss's slow and easy Sunday morning bike rides has been changed from 8 to 9 a.m. The rides begin at Popejoy Hall, UNM.

SECURITY **4-4657**	MAINTENANCE TROUBLE CALLS **4-4571**
SAFETY **4-4152**	ENVIRONMENTAL HEALTH **4-2735**
FIRE **117**	AMBULANCE **4-HELP** **(4-4357)**

NEW NUMBER for ambulance service is easy to remember — call 4-HELP. Don't hesitate to call if you suspect the problem might be serious or even half-serious. And don't fail to put one of the new red and white stickers on your phone. Order extras from Div. 9542 if you have more phones than stickers.

Speakers

H.R. Spahr (5625), "Theoretical Store Separation Analyses of a Prototype Store and Comparison with a Flight Drop Test," AIAA Mechanics and Control of Flight Conference, Aug. 5-9, Anaheim, Calif.

J.F. Cuderman (5243) and K.M. Gilbert (1112), "Spectral Analysis of X-Rays from Laser-Induced Plasmas"; T.S. Prevender (5833), A.W. Lynch (5824), J.L. Ledman (5833) and R.W. Lynch (5824), "Low Energy X-Ray Microradiography of Laser Fusion Targets"; J.J. Hohlfelder (1112) and M.A. Palmer (5243), "A Pinhole Camera for Photographing X Rays from Laser-Produced Plasmas"; G.W. Kuswa and J. Chang (both 5242), "Nanosecond Time Resolved X-Ray Diagnostics of Relativistic Electron Beam Initiated Events"; M.A. Duguay (5243), "Prospects for X-Ray Lasers," Annual Conference on Applications of X-Ray Analysis, Aug. 7-9, Denver, Colo.

C.M. Tapp (2430), "Available Materials and Processes for Thin Film Hybrids," Univ. of Pittsburgh School of Engineering, Aug. 13-15.

D.M. Schuster (5840), W.R. Hoover and M. Moss (both 5844), "Metal-Matrix Composites of Closed Geometries: Development and Evaluation," Sagamore Army Materials Research Conference, Advances in Deformation Processing, Aug. 13-16, Raquette Lake, N.Y.

N.J. DeLollis (5813), "Adhesive Bonding (Design Consideration and Adhesive Selection)," Adhesive Bonded Metal Structures Conference, Aug. 14-15, New York City.

A.L. Stevens (5167) and J. Galbriath and L.E. Murr (both Air Force Weapons Lab), "Electron Microscopy of Shock Loaded Polycrystalline Beryllium," Electron Microscopy Society of America Meeting, Aug. 1974, St. Louis, Mo.

G.J. Kominiak (5834), "Ion Plating Gas Evaporation and Bias Sputter Deposition," AVS meeting, Aug. 19, Dallas, Texas.

P.D. Thacher (9532), "Electrooptic Effects in PLZT X/40/60," Pennsylvania State Univ. Seminar, Aug. 20, University Park.

W.H. McCulloch (1543), "Evaluation of Asymmetric Effects in Solar Receivers," McCulloch and G.W. Treadwell (5712), "Design Analysis of Asymmetric Solar Receivers," R.P. Stromberg (4736), "A Status Report on the Sandia Laboratories Solar Community Program," International Solar Energy Society US Section meeting, Aug. 21-23, Fort Collins, Colo.

S.M. Myers (5111), "Diffusion and Precipitation of Metal-in-Metal Implants," BTL, Aug. 15, Murray Hill, N.J.

C.W. Young (5716), "Penetration of Sea Ice by Air-Dropped Projectiles," IEEE International Conference on Engineering in the Ocean Environment, Aug. 21-23, Halifax, Nova Scotia, Canada.

A.B. Donaldson and A.R. Shouman (both 1543), "Determination of Criticality Conditions for Thermal Explosion in a Two-Layer Reactive Lamina," International Symposium on Combustion, Aug. 25-31, Tokyo, Japan.

D.P. Aeschliman, D.L. Evans and R.A. Hill (all 5642), "Neutral Argon Atom Broadening and Shift Parameters for Red and Near-Infrared AI Lines," J.B. Gerardo (5210) and A.W. Johnson (5216), "Photoscattering and Photoabsorption in the Red Wing of the Resonant Lines of Xe and Kr," International Conference on Spectral Lines, Aug. 26-30, Eugene, Ore.

P.S. Peercy (5132), "Pressure Dependence of the 'Soft' Mode in KDP," International Raman Spectroscopy Conference, Aug. 26-30, Bowdoin College, Maine.

H.C. Monteith (9344), "Creativity," July 2, Sandia Kiwanis Club; "ESP Research in Russia, England and America," July 9, Duke City Civitan Club; and "Reincarnation," July 21, Old Town Optimist Club.

B.W. Marshall (5717), "Solar Energy Research," July 3, Northwest Kiwanis Club, Albuquerque.

R.P. Stromberg (5717), "Solar Energy Research," July 3, Sunport Optimist Club.

G.C. McDonald (9623), "The Golden Years of Automotive Innovation," July 18, Thunderbird Technical Group, Albuquerque.

C.S. Johnson (9421), "The End of the Golden Age of Energy," July 24, Heights Optimist Club.

Death

Henry Duncan of Custodial Division 9715 died Aug. 12 after a brief illness. He was 56.

He had worked at Sandia Laboratories since September 1969.

He is survived by his widow.

Take Note

The New Mexico Academy of Science has issued a call for papers (deadline Sept. 20) for its annual fall meeting to be held Oct. 11-12 at Highlands University, Las Vegas, N.M. Program chairman is Merritt McGaham, biology department, Highlands University. He will be assisted by Eugene Staffeldt, biology department, NMSU; Eric Jones (5214) for the physical sciences section; and William Pitt, geology department, ENMU, for the geological and earth sciences section. Contact any of these people for more information.

* * * *

Fred Schmidt, one of the first executives from WE to work with the newly formed Sandia Corporation, died April 29. Fred was named Vice President and Operating Manager following Western's assumption of the operation of Sandia in late 1949. He remained at the Labs until the mid-50's.

* * * *

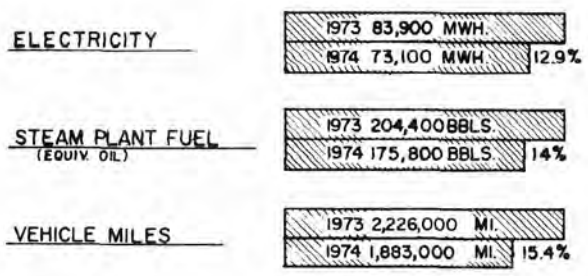
Doug Ballard and Bernie Stiefeld (both 9351) are recipients of an IEEE Merit Award for "one of the outstanding papers published in the IECI Transactions during 1973." IECI is the Industrial Electronics and Control Instrumentation group of IEEE. Title of the paper is "Computer-Based Thermographic Displays and Real-Time Techniques." The award is the second such received by Bernie this year.

* * * *

If you like to see grown men cry, or if you're an aficionado of chile — both green and red — then pay a visit to the AEC/ALO cafeteria. Elsie is mistress of the chile pots, and the dish has become a house specialty. It's served daily, comes in 60¢ and 90¢ sizes, and you get a flour tortilla besides. The cafeteria is located at the northeast corner of Bldg. 382, within the AEC/ALO compound at Texas and H Streets (a few blocks west of the Bank of New Mexico).

* * * *

Need a watch repairer, furniture maker, furniture refinisher, chair caner, or general all-around handyman? The LAB NEWS retiree job reference service is open for business in Bldg. 832, Room 20. Drop by and check the file (small but growing) for the skills you need. No phone calls, please. (Retirees: if you have a skill to sell, fill out the form in the Aug. 16 issue and mail it in. If you've lost it, call 264-7841 and ask for a copy.)



FILM STRIP for this year's UCF campaign is being prepared by (l to r) Beverly Williams, UCF communications director; Howie Hayden (3153), sound recording; and Oscar Goodwin and Jim Pennington (both 3148), photographers.

Sandia Helps UCF Publicity Effort

"Thanks to you it's working," is the slogan of the upcoming United Community Fund Drive. Thanks to some Sandia communications experts this message will reach most of the people in Albuquerque in the form of a film strip which tells of the work and activities of the 34 member agencies of UCF.

This year Jim Pennington and Oscar Goodwin of Division 3148 are doing photography for the film strip. Howie Hayden (3153) is providing the sound track, both location and studio recording plus background music. Phil Mead (3151) is doing the narration. Chuck Cockelreas (3153) helped prepare the script.

Sandia has helped with the UCF film strip for more than 10 years. Bob Colgan, supervisor of Motion Picture and Video Services Division 3153, explains: "Our helping the UCF organization is a matter of helping our own Employee Contribution Plan. The film strip is converted to 16mm format and used extensively within the Labs to inform employees of the work of Albuquerque UCF agencies."

Colgan, who has worked on the project most of the years since ECP was formed, says that after the photos and sound track are prepared, the final product — duplicate film strips and recordings — is prepared by a firm in Chicago at UCF expense. These are shown by UCF volunteers at meetings throughout the community.

Others who have contributed to the project in the past include artists of Division 3155, Elliott Harris, Bill Geck and Wayne Gravning of Division 3153, and Dick Hodges of Division 3148. Joe Laval (3161) as ECP coordinator works closely with UCF committees.

Advice to the Poollorn

by Otto Miles Shorter, Exp.

Dear Otto:

I'm not a car pooler, but I've got a problem. It's the pain I get when I'm trudging miles from the outlying parking lot after returning from an errand and I see that a fourth or a half of the car pool reserved slots are vacant. If car poolers aren't going to use them, why can't I?

HOT & DISTRAUGHT

Dear Hot:

I asked Bill Martin (9550) about empty car pool slots. (Bill's department assigns the slots and monitors their usage.) He says that in a survey of 480 slots 85 (under 18%) were vacant.

Of these 85, seven pools admitted they didn't deserve slots and gave them up. Another seven slots were temporarily unassigned. The remaining 71 slots were vacant for good reason. For example, the pool driver was on vacation, on a business trip, or ill and the rider(s) came by bus or caught a ride with someone else (32% fit this category). Another 18% were, like you, running an errand at the time checked. In 15% of the cases, all in the pool were on vacation, on a trip, or ill. About 12% were parked elsewhere around the area for good reason — the slot was too tight for the camper, or the driver was temporarily assigned to Area V, or the pool had to work overtime and therefore parked near Gate 1 (the only gate open after 5:30 p.m.). A small group, 7%, say they use their slot only part-time; Security will check out those poolers periodically.

Why not form or join a car pool yourself?

GRADUATES of the Labs' Maintenance Technician apprentice program are grouped here. From left, back row, Herminio Molina, Al Ayotte, Pete Armijo, Roger Gonzales, Warren Nilchee, Roger McClure and Robert Zamora. Kneeling, from left, Milton George, Frutoso Gurule and Sal Moya. Not pictured, but also graduating are Basil Herrera and Nick Fajardo. Having completed the 5-year program, the new journeymen will practice their skills in assignments in plant Maintenance Department 9710.

feedback

To get a response to your comments and questions about Sandia Labs, complete a Feedback form (available near bulletin boards) and return it to the Feedback administrator. The substance of questions and responses of wide interest is published in LAB NEWS.

Q. Sandia policy requires that prior to the release of a purchase order for Plant Equipment, a property search be made to insure that no similar item exists and is available. While this makes sense sometimes for standard products, it is a "make-work" job when development hardware is involved. For example, we are currently developing hundreds of new products, each bearing a Sandia MA, TC or TA nomenclature number. These are special development items and, by definition, have never existed before anywhere. What sense does it make to waste time and effort performing a property search? Are similar searches performed on MC and SA items, etc.?

A. The intent of the Property Search Request (PSR) is to avoid purchase of equipment (primarily general-purpose, bench-type) which is already available within the Laboratories. A list of typical kinds of equipments for which a PSR is required is contained in SLI 6430-4, Appendix A. In paragraph 3 of that SLI, an exception is made for all "special design items pertaining to Sandia drawings (. . . sketches) and specifications, including designs of other integrated contractors prepared for Sandia Laboratories."

Some gray areas do exist in deciding if a PSR is required, but the items you have defined are outside the scope of the PSR. We will review the PSR requirements with the property, purchasing, and accounting organizations to ensure that the PSR is used appropriately.

R.J. Edelman - 4200

* * * *

Q. Since parking bumpers were added in the lot north of Bldgs. 829 and 830, there is almost no walk left. Any chance of getting a walkway next to the fence?

A. We are preparing a work order for paving between the fence and parking bumpers in this area. The job will be completed as soon as our work-load schedule will permit. It may, however, be several weeks before work starts because of vacations.

R. E. Hopper - 9700

* * * *

Q. (from SLL) In March I lost my Bell Systems Savings allocation. This happened because of increased retirement take-out, and insufficient salary was left for the Bell System deduction. This cost me $50.00! (the Labs' matching amount). There should be some system of notification that this is about to happen.

A. We regret that you lost the Laboratories' contribution to your Bell System Savings Plan (BSSP). The priority of deductions from pay is specified in SLI 9616. In addition, Section 15 of the BSSP Prospectus, which was distributed to all participants, states as follows:

"The making of allotments from the salary of a participating employee shall be suspended while he is a regular salaried employee in active service if his salary is insufficient (after *all other* authorized deductions from his salary) to permit the making of his allotments."

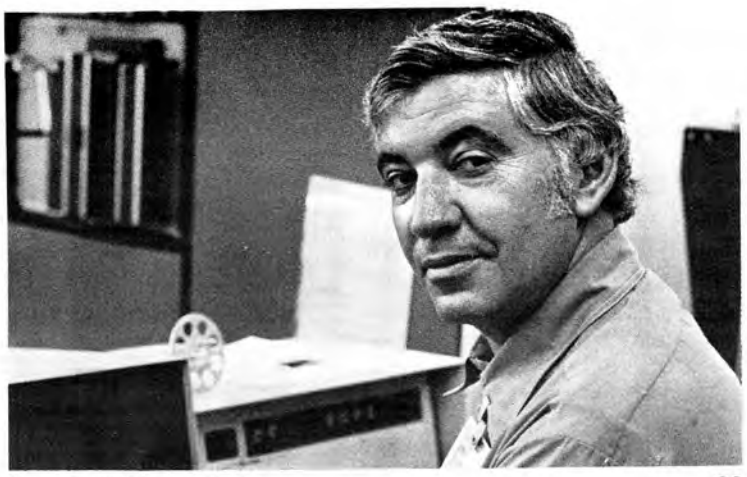
Your suggestion that a system of notification be established would be prohibitively expensive, particularly in view of the very rare occasions when this has happened. Since the Payroll Division has no control over such items as mid-month withdrawals, credit union deductions, etc., the fact that an employee is jeopardizing his BSSP allotment is not known until after the payrool is run.

C. R. Barncord - 4100

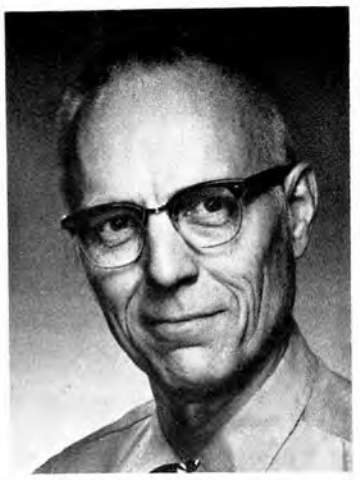
MILEPOSTS

LAB NEWS

August, 1974



Joseph Valdez - 3612 — 20



Gerrit Hof - 2432 — 25

Nell Arnett - 3141 — 10

Gary Beeler - 8157 — 10

Ray Hanson - 8421 — 10

Robert Durkee - 1132 — 20

John Gardner - 3141 — 10

Marv Loll - 8158 — 10

Willis Whitfield - 5252 — 20

Louis Ulibarri - 9754 — 10

Rexford Rozelle - 3645 — 20

Mike Stephenson - 8366 — 10

James Appel - 1525 — 20

Vincent White 9655 — 20

Tommy Simpson - 3647 — 10

Ed English - 8362 — 10

Richard Worrell - 1652 10

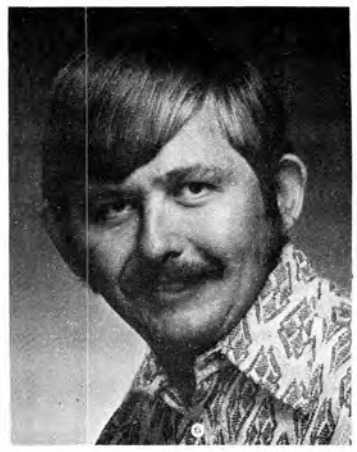
Bill Brown - 8161 15

Robert Corey - 4821 20

Arlyn Blackwell - 8110 15

John Stott - 9652 20

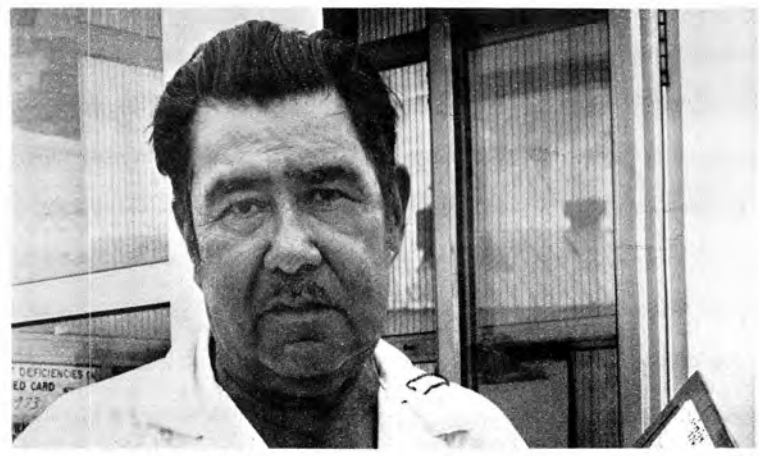
Gene Aas - 8266 25



Ronald Jacobson - 5131 10

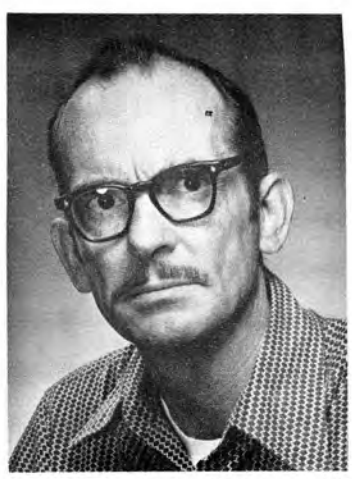
Morris MacGibbon - 3644 20

Walt Norris - 9751 25



Herman Nieto - 9754 20

Bobbie Balanda - 8266 15



Robert Thomas - 9717 25

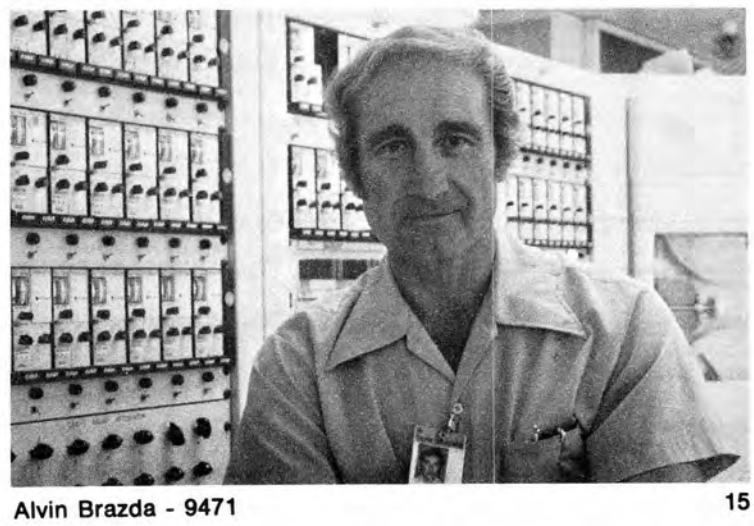
Peter Komen - 2123 20

Al Iacoletti - 2641 20

Gene Hammons - 5132 10

Vivian Lenz - 8421 15

Jim Martin - 8256 15



Alvin Brazda - 9471 15

Dennis Murphy - 9522 25

Volunteers Teach Classes

Sandia, Young People and Science Careers

When Bill Spencer worked at Bell Labs in New Jersey, he shared the concern of many scientific people over declining enrollments in science and engineering curricula. His personal answer to this development was to set up a kind of science pep squad that went out into the world to do a little drum beating in the name of scientific careers.

The squad went about its task in an innovative way. Bill arranged for members of the group, each representing a different discipline, to be a teacher in a summer science program at a Newark high school. Young people taking part in the program not only learned what to expect if they pursued a career in, say, physics or chemistry, but they learned about people who are engineers and scientists through contacts with their Bell Labs instructors.

Bill transferred here last year to become Director of Microelectronics 2100, and he brought the missionary spirit with him. Upshot of this is the Sandia/Albuquerque Public Schools Science Summer Program, which has just concluded its trial run. Five Sandians met with a class of Albuquerque High students once each week for two hours over a six week period. The Sandians and their subjects were Gerda Krefft (5112), Materials Science; Marilyn Gordon (2642), Mathematics in Computing; Augustin Ochoa (2112) and Freddie Heard (2125), Digital Electronics; and Pete Richards (5112), Physics. Wayne Trump (3131) provided liaison with APS.

In addition, APS provided support for the program in the persons of Euola Cox, a school counselor, and Jerry Long, science teacher.

Students chosen were those who had shown an aptitude for math but were not necessarily high performers. The class was about equally split between girls and boys and had a sizable minority representation. The Sandians' enthusiasm for their subject and their ability to empathize with the students were reflected in the high percentage of class attendance and course completion. The Newark experiment showed similar results.

The program was considered a joint effort with Sandia providing instructors and APS the classrooms and transportation for field trips to visit technical areas at Sandia.

In addition to classwork, several informal sessions were held between students and teachers to discuss what it's like to be a scientist or engineer.

Several follow-up sessions are planned for the school year. These will help to measure the effectiveness of the experiment and will serve as a means to recruit students for next year's program.

Will the young people in the program become tomorrow's scientists and engineers? The answer may perhaps be found in comments given by the students when asked for their opinion of the Sandia program:

"Had already planned to take many science and math courses — this reinforced my decision."

"Should be more math and science (offered), not the fun classes that waste your time."

"Now that I see what an interesting subject physics is I want to learn more."

One young man, asked how the program might be improved, is clearly destined to fill a no-nonsense role. His terse recommendations; *"1. Shorter breaks, 2. A longer program, and 3. More discipline."*

Congratulations

To Mr. and Mrs. Bruce Varnado (9353), a son, Jason Scott, Aug. 18.

Sympathy

To John Panitz (5114) on the death of his father, Aug. 10 in Bayside Long Island, N.Y.

To Lamar Treadwell (1523) on the death of his wife, Aug. 14.

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

CLASSIFIED ADVERTISING

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

A maximum of 125 ads will be accepted for each issue.

RULES

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

MISCELLANEOUS

CHASSIS from full size 15 ft. camper, $100; homemade 8 ft. cab-over camper, $200; used corrugated metal roofing sheets; firewood. Shock, 877-3728.

SHOTGUN, Stevens, 16 ga. pump, full choke, 5 boxes of reloaded shells, Lyman bench type reloading dies, 100 empty hulls, $80. Snowdon, 344-4637.

CHAIN saw, Sears, 20", gear drive, new bar/chain, $95. Kohut, 298-0695.

ORIGINAL oil paintings, 12x16 size, $3.50 ea.; Lund Topflite skis, $9; Tropic-Aire heavy duty electric heater, $7. Smitha, 293-1177.

'72 SCHULT 12x60 mobile home, 2-bdr., AC, setup & skirted, Four Hills mobile home park. Davis, 294-3324.

TWIN bed, Sears Postur-Pedic mattress & box spring w/brass headboards. Costello, 299-0563.

1 YR. European Health Spa membership; baby items: jump seat, baby tender, bumper pads, potty, car bed, misc. Self, 296-4137.

GOOD used Wizard refrigerator, $35. Anderson, 296-0892.

STUDENT clarinet, case & music stand, $50. Schuster, 255-5970.

BEAR shot shell loader, 1000 primers, 1000 hulls, 2000 1-piece wads, $65. Matthews, 869-2370.

BARITONE horn, gold lacquer finish, $225; trombone, gold lacquer finish, $65. Rose, 298-4849.

UPRIGHT freezer, $70; portable dishwasher, $40; Spider bike, 20", $18; girl's 20" bike, $15; 2 ea. 6-ply 6:00x14 tires. Nelson, 867-2746.

SKIS, Head standard 210cm. Edenburn, 265-5184.

TRAVEL trailer, 13-1/2 ft., $900; trombone, like new, $125. Dykes, 298-4754.

GIRL'S 20" bike, high-rise bars, banana type seat, reflector pedals, $35. Stuart, 265-7315.

SADDLE, black w/metal trim, $135. Opland, 869-2012.

SHOTGUN, Winchester mod. 1200 pump modified barrel, $85. Fox, 266-6606.

FILE cabinets, 4-drawer, masonite veneer, $25; wood, $35; hardwood veneer, $45; oak, $110. Call Monday or later. Donaldson, 255-4024.

3.50x18 MOTOCROSS knobby tire, like new, 525 trail miles, $15. Burks, 821-0132.

OLDS Ambassador French horn & B-flat trombone, good student instruments. Plumlee, 281-3224.

GIRL'S bike, Sears, 20" semi-pneumatic tires, coaster brake, a good learner bike, $15. Doggett, 299-7957.

REYNOLDS trumpet w/mute & case, $150. Brooks, 268-5449.

TWO weeks old white velvet couch & chair, $200; black couch/sleep & recliner, $100; double bed frame, $7. Smith, 294-8701 after 5.

GLOYS inflatable Kayak, 137"x37", 575 lb. capacity, several air compartments, pump, alum. oars, $36. Wiesen, 256-7973.

AMPEX model 755A stereo tape recorder, sound on sound, sound w/sound, echo, $175. Hobbs, 268-6461.

PORTABLE typewriter, Wedgewood 100, w/case, $20. Erickson, 299-6824.

20" COLUMBIA bike, chrome high-rise bars & fenders, banana seat, orange frame, $25. Mehl, 345-1076.

DISHWASHER, Frigidaire Imperial, portable, top loader, 2-cyl., simulated wood top, $115. McIntire, 299-5791.

54 HP Renault gasoline engine, complete, $65, rabbits, all kinds; as is washing machine, $15. Bassett, 898-1840.

BICYCLE, 24" Schwinn Stingray, $45; irrigation gates w/48" galvanized culverts 12", $20, 15", $50; lawn seeder, $15. Harley, 898-0594.

TRANSPORTATION

'68 CAMARO SS, 58,000 miles, bucket seats, $1000. Smith, 298-5377 after 5.

'72 KAWASAKI 500, $650. Galloway, 255-0262, 308 Gen. Bradley NE.

'71 FORD Galaxie station wagon, low mileage, AC, PS, PB, luggage rack, reg. gas, $1950. Browne, 345-3910.

BICYCLES, 20", girl's, 3 ea., banana seats, single speed, Sears, 2-2 yrs. old, 1-1 yr. old. McEwen, 268-1440.

'67 DODGE Sportsman Van Camper, 60,000 miles, elevating top, sleeps 2 adults, 2 children, AT, 318 V8. Reed, 298-1126.

'72 HONDA CT-70 trail, 1400 miles. Harrington, 296-6707 after 5:30.

HARLEY-DAVIDSON Sprint 350, $300 or best offer. Gardner, 898-6523 after 6.

'73 DATSUN pickup w/radio, AC, bumper, mirrors. Cox, 281-3109.

'74 CUTLASS Salon, loaded, 8000 miles, $4700. Herring, 294-0632.

'73 HORNET, vinyl roof, AT, 18,000 miles, radio, $2650 or best offer. Crowell, 521 Spruce, SE, 104.

'70 RAMBLER Rebel, 4-dr., 6-cyl., AT. Anderson, 299-5727 after 9-2-74.

'72 GREMLIN, 6-cyl., AT, mag wheels, stereo tape deck, bucket seats, new brakes, low mileage, $1475. Chavez, 256-1087.

'73 FORD Courier, $150 down, take up payments, R&H, step bumper, electronic ignition, 6500 miles, full warranty. Thomas, 293-3241.

'69 OPEL Rallye, $300 below book at $920. Watterberg, 294-6759.

'71 PINTO, 2000cc, 4-spd., new tires, deluxe decor, radio, $1495. Wagoner, 281-3177.

'68 OLDS Delta 88, 4-dr., air & power, 57,150 miles, $895. 299-1179.

'71 SUZUKI 400 MX, stored since Oct. '73, make offer. Dougherty, 298-6043.

'69 DATSUN 510, 2-dr., 1600cc engine, 4-spd., below book; motorcycle trailer, $100. Mantelli, 298-2603.

'72 PONTIAC Formula 400, completely equipped, low mileage. Braasch, 268-8416.

'62 CHEV. wagon, R&H, AC, radials, 327 CID, 4-barr. carb., tinted glass, $450. Cover, 268-0921.

'71 HONDA CB350, $390; '70 Opel wagon, new radials, needs rebuilding, $800 below book. Schaefer, 281-3271.

ELITE, 10-speed, 26" lightweight bike, thornproof tires & tubes, w/rack, $90. Walla, 299-2209.

WANTED

LAPIDARY saw & grinding wheels. Azouz, 266-3512.

MODEL airplane, RC, equipment for beginner, single/channel bang-bang pulse system acceptable. Fisher, 299-9235.

SERVICE manual for '64 Skylark. Scheiber, 299-4743.

USED concrete mixer, electric. Schamaun, 298-5192.

AMPLIFIER, stereo, small, low power & inexpensive. Coleman, 299-2377.

RIDE — to San Diego or L.A. for 2 girls, 11 & 13 by Sept. 12. Share expenses. Hawkinson, 281-5239.

FOR RENT

LARGE 2-BDR. furnished apt., enclosed lawned yard, $135 including water & gas, no pets, near base (NE). Aragon, 294-0225.

3-BDR., 1-3/4 bath house, convenient location. Schwoebel, 298-4295.

REAL ESTATE

HOLIDAY PARK, 4-bdr., lg. lot, custom drapes, sprinklers, 5-3/4% mortgage, $14,000 minimum down, Dec. occupancy. McBride, 299-4347.

LOST AND FOUND

LOST — Silver poodle charm; set of keys; brown leather gloves (man's). LOST AND FOUND, Bldg. 832, tel. 264-3441.

FOUND — Multi-blade pocket knife. LOST AND FOUND, Bldg. 832, tel. 264-3441.

CHAMPS • C-CLUB • PUPPETS • LOCKER ROOMS • BANKS • SAM • SEAL • DENNY

FRIDAY	SATURDAY
30 — HAPPY HOUR MEXICAN BUFFET Adults $2.65 Under 12 1.65 *BOB BANKS TRIO* *On Stage Denny*	31 — SOUL SESSION 8:30 - 12:30 *TRUCKIN'* Members Free Guests $1.00
6 — HAPPY HOUR FRENCH BUFFET *Adults $2.75* *Under 12 1.75* *SOL CHAVEZ* Lounge Denny	7 — FAMILY VAUDEVILLE Ron & Mary Kay's Puppets *Sammy the Seal* Food at 6 Show at 7

STALL — no longer if you've missed Ron and Mary Kay Day's Puppet Shows. If you've seen one, you don't need to be urged not to miss them. They're the feature at Family Vaudeville on the 7th. *Sammy the Seal* too — a Walt Disney movie. Free to members.

FALL — is just around the corner so the outdoor swim season ends in its customary blaze of glory: the Pool Closing Party lasts from 11 to 6 on the 2nd, and you can hear the Del Norte Band, cheer the Castelles (a crack drill team), and watch the Coronado Aquatic Diving Team. You can also swim for the last time. *Unless* you pay the nominal fee for winter (enclosed pool) swimming — ask at the Club.

CRAWL — or run or slide to the Soul Session tomorrow night. *Truckin'* for dancin' is the attraction.

ALL — of us cheer the Aquatic Club water polo teams. All sons and daughters of Sandians, they walked, i.e., swam, away from the National AAU Junior Olympic Water Polo Championships with a First Place for the girls' team, Sixth for the boys. Thanks to all who helped raise the cash for the trip to California. Herb Filusch is the VP involved, Reed Barnitz the coach.

SMALL — preview of the delights in store for those signing up for the Christmas Caribbean Cruise. Questions, answers, likely a movie; 7:30 on the 11th for actual and prospective cruisers.

ENTHRALL — yourself at the Sanado Club's Street Festival and Membership Fair. Sanado includes activities for all — fishing, bridge, horseback riding, bowling, gourmet cooking, book exchange, investments, plus art, tennis, and golf, demonstrated here by Sharon Gauerke, Ginny Burns, and (standing) Judy Love. Fair is 10 to 2 on the 10th near the pool — refreshments, door prizes, crafts for sale, lunch at the Club, no reservations, no admission fee, no cover, no minimum.

BALL — games approach at UNM. Wolfpackers can get an early tinge of thrill by touring UNM's athletic complex. Head Trainer Tow Diehm will pause from training heads long enough to show off their equipment; Eddie Groth will guide Wolfpackers and families around the basketball arena and will even pierce the sanctity of the locker rooms. Meet at the Athletic Department Ticket Office south of the football stadium at 1 tomorrow.

BAWL — if you miss out on one of the three big travel packages coming up. Greece, Caribbean, Mexico City — what a Christmas gift!

HAUL — a shrimp haul, that is, will arrive from the Caribbean in time for another fantastic Shrimp Peel on the 14th. If succulent crustaceans give you intestinal longings, don't miss it. $4.90 for members, $5.90 for guests. *Pick up tickets by the 7th;* maybe there'll be tickets left by then.

CALL — 265-6791 for info.

• SHRIMP PEEL • DIVERS • SOL CHAVEZ • LAST SWIM

Events Calendar

Through Sept. 30 — Maxwell Museum, UNM, "7 Families in Pueblo Pottery" exhibit.

Aug. 30 — Civic Light Opera, "Damn Yankees," 8:15 p.m., Popejoy Hall.

Aug. 31 — N.M. Mt. Club, moonlight hike in Sandias, 6-8 miles, Western Skies, 7:30 p.m.

Aug. 4 — Harvest Dance, St. Augustine's Day, Isleta Pueblo.

Sept. 4-7 — Noreste Art Show, 10 a.m., Winrock Shopping Center.

Sept. 4, 11 — Municipal Band concert in east courtyard, 7 p.m., Winrock Shopping Center.

Sept. 6-8 — "Show Boat" 8:15 p.m. Fri. and Sat.; 2:15 p.m. Sun. Popejoy Hall.

Sept. 7 — Thunderbirds will perform, no admission charge, Kirtland Air Force Base.

Sept. 8 — N.M. Mt. Club, Winsor Trail Santa Fe Ski Basin, Gulf Mart, 7:30 a.m.

Sept. 11-12 — Zoo Benefit Mini Fair, animals & rides, Winrock Shopping Center.

Sept. 11-22 — New Mexico State Fair.

Sept. 13 — Johnny Cash Show, 8 p.m., Convention Center.