

Valley Smog Foe To Speak Tonight

Joseph Devaney, head of the Los Alamos-based Anti-Smog Federation, will speak tonight, at 7:30 p.m., in the hospitality room of the Albuquerque National Bank, East Central office, at 4401 East Central. An earlier announcement had stated he would speak at the First National Bank.

Devaney a Los Alamos physicist, will speak on air pollution in the Rio Grande Valley.



SANDIA LAB NEWS

VOL. 21, NO. 5, FEBRUARY 28, 1969

National Materials Panels Meeting at Sandia Labs

President John Hornbeck and Sol Buchsbaum, vice president 5000, welcomed members of two panels of the National Research Council to Sandia Laboratories yesterday. The panels will meet through today as part of a continuing study of the hardening of materials for reentry vehicles.

Floyd Tuler (5133) is a member of the Panel on Fracture Analysis. The second group meeting here is the Panel on Materials Properties.

Both panels are part of the Materials Advisory Board Ad Hoc Committee on Hardening of Materials, charged by the Department of Defense to resolve problems of materials and structures in the hardening of reentry vehicles.

Sandia Seeks Applicants For Apprentice Programs

Candidates are now being interviewed for two Sandia Laboratories apprenticeship programs planned to start next fall. Employees who are interested in either the machinists or electronics four-year programs should contact Dick Chapman, 264-5868, or Fred Romero, 264-3000, of Personnel Division 3232. Applications should be filed by March 14.

The programs provide about 8000 hours of on-the-job and classroom training and lead to journeyman status for successful participants.

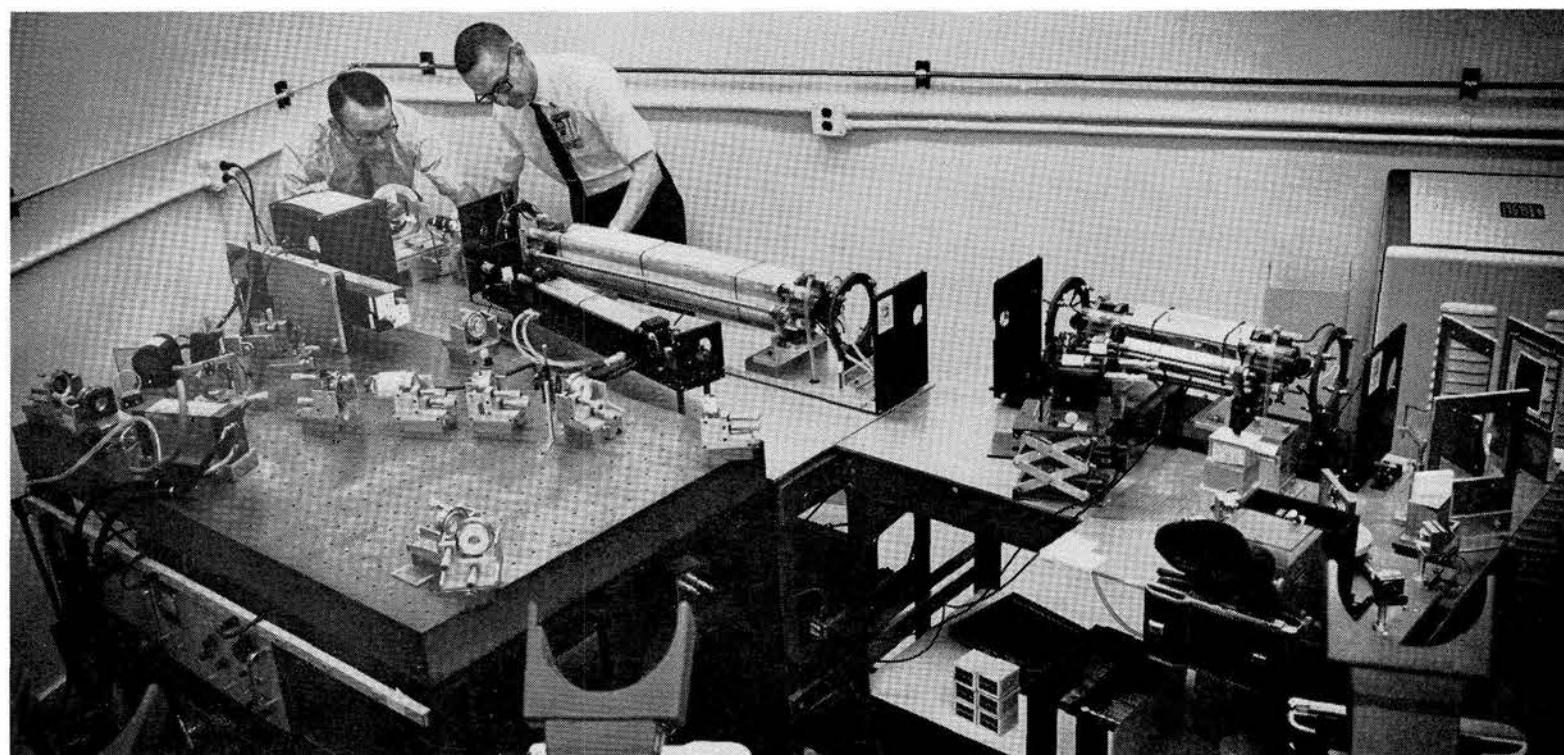
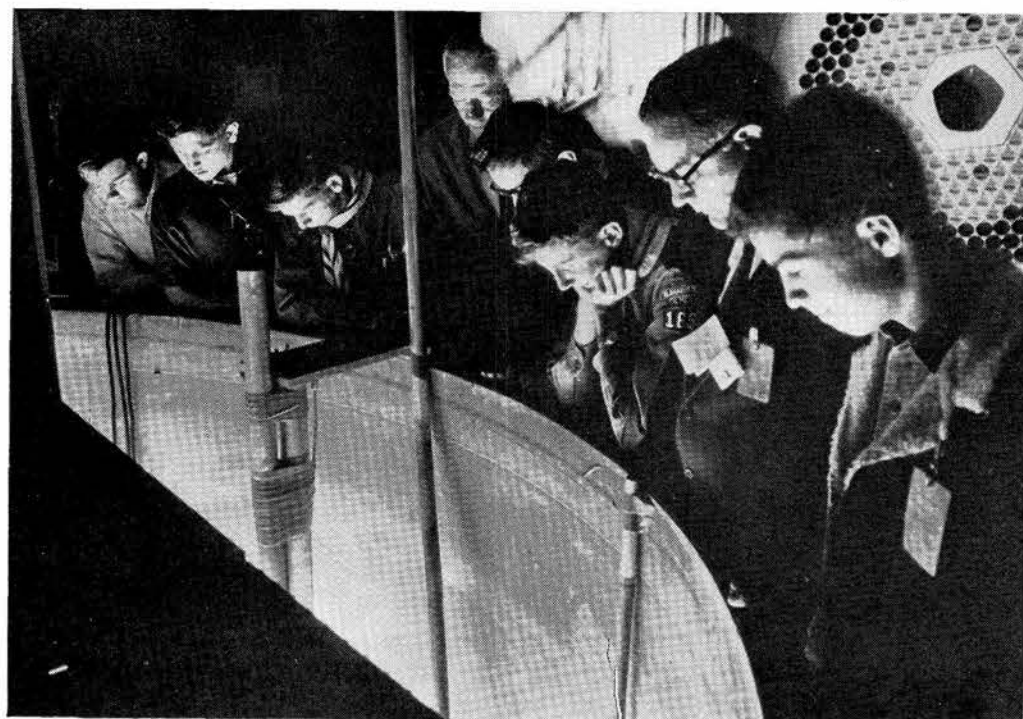
Applicants must be high school graduates or equivalent who have had a year of algebra and geometry. They should be between the ages of 18 and 30, except for those who have served in the Armed Forces. In this case, eligibility is extended by the length of the military service, up to five years.

On-the-job training in the shops will be given in-hours under qualified instructors. Apprentices will be rotated within the Development Shops 4200, to gain experience with operations and processes required for their training.

Shop theory classes will be conducted in-hours in the classroom or laboratory.

Related academic subjects must be completed in out-of-hours classes and include courses in mathematics, mechanical drawing, physics, metallurgy and plastics.

BOY SCOUTS, working on merit badges in atomic energy, toured Sandia's Area V reactor facilities last week. Bob Jefferson, supervisor of Reactor Application Division 9141, is a counselor for the badges. Horace Montoya (4211), second from right, is a scoutmaster along with David Wood (AEC/SAO), fourth from left. The troop is illuminated by the pulse from Sandia's Annular Core Pulsed Reactor which is contained in a tank of cooling water.



ALIGNING the amplifier section of Sandia's new high intensity, ultra short pulse laser are Eric Jones (5114), left, and Garth Gobeli (5110).

This laser is used to study properties of materials under very rapid deposition of energy.

New Light on Materials

Pulse Laser Gets There Fastest with Mostest

A study of laboratory-produced high temperature plasmas. The possibility of inducing thermonuclear reaction on deuterium targets. Production of fractional Megabar shock waves. These are among the phenomena that may be achieved through use of Sandia Laboratories' new high intensity, ultra short pulse laser.

Garth Gobeli, manager of Radiation Effects in Solids Research Department 5110, and members of Optical Effects in Solids Research Division 5114 are using the large laser to gain knowledge about materials under conditions of very rapid deposition of energy.

The instrument was constructed to Sandia specifications by the American Optical Company. Much of the credit for successfully bringing the laser into operation belongs to James Bushnell, Paul Peercy and Eric Jones (all 5114).

The heart of the laser consists of four neodymium-doped glass rods — a small picosecond oscillator rod and three laser

glass rods ranging in length from 21 to 42 inches and in diameter from $\frac{1}{2}$ to $1\frac{1}{2}$ inches. The oscillator rod generates a train of ultra short light pulses, one of which is selected and amplified by optical and electronic equipment. In the resulting laser beam, four percent of the beam's energy is used for diagnostic purposes while the balance is directed to the experiment. The numerous lenses which are a part of the system are also ground from laser glass rods because conventional optical lenses would be damaged by the high energy.

Mr. Gobeli explains that the laser can be operated as an optical amplifier in three different ranges: a long pulse mode, of millisecond duration, with random spiking and total energy up to 800 joules; a giant pulse mode, of 35 nanoseconds duration, with energy up to 200 joules; and a mode, now in use, in which 50 joules of energy are expended in a pulse lasting from 3 to 10 picoseconds, representing an increase of peak power to 1×10^{13} watts. (A nanosecond is one billionth of a second and a picosecond is one trillionth of a second.)

Grieving Father's Plea: 'Fasten Seat Belts'

"A moment of carelessness, a moment of panic? I don't know, but I do know that if my son had kept his seat belt on he probably would be alive today."

The story that Anthony Astorga (7323) volunteered to tell is not a happy one. But in his grief Tony feels concern for other men's sons and it just may be that his plea will save somebody's life: "Fasten seat belts!"

On Jan. 10 Tony's son Anthony Jr., recently returned unharmed from two years on the Vietnam battlefields, died as a result of carelessness while driving. The young man died from injuries after being thrown from the car which had overturned when he apparently went to sleep at the wheel.

"My son was a great believer in seat belts. He always wore them — except this time. He even asked me to install seat belts in the back seat of my car.

"Why didn't he wear his this time? I don't know. Maybe he was wearing one but in a moment of panic — when he realized he was going over—he released it."

It is obviously painful for Tony to talk about his son's death. "But if my story will help save some other person from being killed it is worth it."

"We have heard that the Russians recently achieved 20 joules in 10 picoseconds —and we have already surpassed that," Mr. Gobeli says. "To my knowledge, this output represents the highest power yet achieved from a pulsed laser, and the accomplishment has evoked considerable interest from scientists in the laser field."

The unusual capabilities of this laboratory instrument have created some unusual problems. One of them is finding a device able to measure ultra short time periods. Oscilloscopes are no help beyond a fraction of a nanosecond. The scientists have been relying upon a two photon fluorescence system in which the light pulse is split into two parts and then rejoined in a container of dye. The spatial extent of the light pulse can then be recorded on film; knowing the velocity of light in the dye, it then becomes possible to calculate the duration of the pulse.

Another problem arises from the possibility that some energy may be present between the regularly-spaced pulses. These smaller amounts of energy could preheat the target and cause premature expansion of the material being tested. "This would cause a false reading of the amount of energy reaching the target," Mr. Gobeli says. To get rid of such unwanted energy, it is first necessary to know how much exists. This problem is under investigation.

Occurrence of a "double mode structure" — a small double pulse instead of a single pulse—is another problem which can be both serious and complex. The cause is not known at present.

Why the need for incredibly short high energy pulses? Previous efforts to produce thermonuclear neutrons in deuterium targets have not been very satisfactory because the extremely high temperatures (caused by high energy) have heated the solid target, causing its rapid expansion and changing its normal characteristics. But when the pulses last for only a few picoseconds, there is virtually no change in the material in terms of expansion.

When a solid target is illuminated by a laser pulse of several nanoseconds duration, the front surface evaporates so fast that the resultant plasma, formed in front of the target, shields it from some fraction of the incident energy. With this surface shield, the amount of the laser energy actually deposited on the target becomes uncertain. "But with a pulse of picosecond duration," Mr. Gobeli explains, "we are fairly certain that the energy has gone to the target and has not been absorbed by the plasma shield."



ONE OF THE LARGE POTS excavated at Tonque Pueblo and restored by Dick Bice (left) is examined by Frank Barnett during a recent visit in Albuquerque.

Weekend Archaeologists

Excavation by Sandians Extends Tonque Pueblo 'Life' by 100 Years

The tumbleweed-covered land alongside the arroyo looked promising. Potsherds were scattered atop the sandy soil and there were revealing mounds. On the basis of this evidence (and knowledge of investigations some 30 years earlier), several persons who later became members of the newly-formed Albuquerque Archaeological Society began a time-consuming project which has resulted in a new book.

The field work was carried out by Franklin Barnett, now a retired Sandia employee, and Dick Bice (7000), with assistance from their wives.

The book, which will appear in May, is entitled "Tonque Pueblo, A Report of Partial Excavation of an Ancient Pueblo IV Indian Ruin in New Mexico." Its contents will greatly extend the knowledge of this important site. For instance, until now it was believed that this Middle Rio Grande Valley Pueblo was occupied from 1428-1496, but artifacts uncovered by the two men have established that the village was occupied as late as 1600 (occupancy was not continuous).

The Barnetts excavated 94 rooms and the Bices 50 rooms. The work at the Pueblo was conducted from January 1962 - November 1964 during week-ends, vacations, and sometimes summer evenings. The amateur archaeologists estimate that there are at least 1500 rooms in the ancient Pueblo, but further digging would probably not add materially to basic existing knowledge.

The Pueblo, located about halfway between Albuquerque and Santa Fe, is on privately-owned patented land and therefore does not come under provisions of the American Antiquities Act. Permission for the digging was granted by the owner on the condition that a formal report on the findings would be published.

Frank has been interested in archaeology for a dozen years. When he retired from Sandia four years ago, he and his wife moved to Prescott, Ariz., where their home contains two museum rooms to display their collection of more than 500 ancient pottery vessels and about 600 modern (since 1700 AD) pieces of pottery

and baskets made by the Indians of the Southwest. Frank's experience as a technical manual writer has been useful in writing reports on some 380 rooms of ruins in Colorado, Arizona, and New Mexico which he and his wife Joan (a former Sandia secretary) helped to excavate. One report, "Birds on Rio Grande Pottery," was published in recent months and two additional reports will appear this summer.

"I thought after retirement I would have time to sit and think," Frank says, "but sometimes I find I'm working 10 or 12 hours a day. I have so many projects underway. One is to re-write descriptive material in the Camp Verde museum, south of Flagstaff. This was a Civil War fort and most of the old buildings are still standing."

The Tonque Pueblo book has been a big job. The printed version should run about 250 pages. Frank did all the writing and made the engineering drawings of the excavated rooms. There were many revisions as additional material was classified. Dick Bice processed all the illustrations and will be responsible for making the lithographic plates.

How does one study a buried ruin? "You work with a shovel, trowel and screen, but when you reach a level that is revealing, you trade these for a brush," Dick says. "After moving at least 10 tons of dirt, you probably will have excavated one room." He estimates a minimum of 35 man-hours per room — and some take much longer. The more artifacts found, the longer the process because the objects will be photographed several times and will be cataloged as to location, depth, and relationship to other findings.

"I feel that digging with the archaeological society or other responsible group is the best way because it will result in something constructive. Once a trowel or shovel is put to a ruin, the process is irreversible. It is important to obtain the information that is there, to fully study the remains, and to publish the results," he says.

The Bices have participated in a number of digs. Recent ones have been Archaeological Society projects including an Early Basketmaker campsite near Rio Rancho Estates, a Folsom site jointly with the University of New Mexico, and a small-house ruin as part of the Anasazi Origins Project northwest of Albuquerque with Dr. Cynthia Irwin-Williams of Eastern New Mexico University (her husband is Dave Williams, 5271).

As to the Tonque Pueblo, artifacts recovered included a full range of pots, axes, jewelry, and other items typical of the era. Outstanding pieces are a pottery canteen and a ceremonial bowl decorated with a stylized bear.

For further information about the Albuquerque Archaeological Society, please contact Bill Sundt (1642), the current president.

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Speakers

S. W. Key (5162), "An Application of the Finite Element Method to the Study of a Stress Concentration," Winter Conference, American Society of Civil Engineers, Feb. 14, Albuquerque.

T.H. Martin (9143), "Design and Performance of the Sandia Laboratory Flash

X-ray Generator"; K. R. Prestwich and D. L. Johnson (both 9143), "Development of an 18-Megavolt Marx Generator," 1969 Particle Accelerator Conference, March 5-7, Washington.

R. E. Day (3132), "Report Writing, the Technician's Tool," T-VI Report Writing Class, Feb. 17, Albuquerque.

A. Narath (5100), "Nuclear Magnetic Resonance of Localized Magnetic Moments (?) in Metals," University of California Physics Department Colloquium, Feb. 7, Santa Barbara.

A. D. Swain (1642), "Human Factors Applied to Accident Prevention," New Mexico Chapter, American Society of Safety Engineers, Feb. 14, Albuquerque.

G. P. Steck (1723), "The Importance of Probability and Statistics (Addendum — The Monte Carlo Method)," College of Southern Utah, Feb. 10, Cedar City, and New Mexico Institute of Mining and Technology, Feb. 20-21, Socorro.

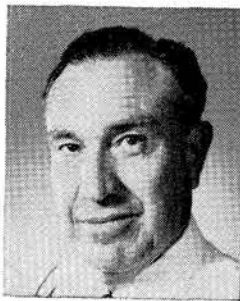
M. K. Linn (3400), "Public Relations Feedback and Its Effect on Management Decisions," Public Relations Society of America, Feb. 15, Albuquerque.

Calla Ann Crepin (3421), "Existing Systems and Types of Skills Required in Library Automation," Albuquerque Library Association, Feb. 5.

C. A. Trauth (1741), "Planetary Quarantine for Space Exploration," College of Santa Fe Biology Club, Feb. 28, Sphere of Science.

L. E. West (9424), "SPIRAL Computer Program," American Management Association session on Fundamentals of Information Retrieval, Feb. 13, Dallas.

Take Note



A Sandia Security Lieutenant, Reuben J. Montoya (3240), was elected this month to a six-year term on the Bernalillo Municipal School Board.

Eight candidates were listed for the three vacant positions — two vacancies for six-year periods and one for two years.

Reuben has been interested in school activities for a number of years. He served six years as a volunteer school budget commissioner for Sandoval County. In this position he was concerned with equitable distribution of more than \$3.5 million among three school districts with more than 5000 students. Included within the three districts are the All Indian Tribes, Jemez Valley, San Diego Mission, Cuba, La Jara, Bernalillo, Placitas, Algodones, Santo Domingo, and Pena Blanca schools.

Play It Safe

Avoid Russian Roulette on Skis — Have Bindings Checked

Spring snow conditions very likely give both experienced and inexperienced skiers the most amount of trouble.

Snow texture changes rapidly from icy in the morning to "wet concrete" in the afternoon. Turns and other maneuvers in this range of snow conditions make spring skiing a new and more tricky game.

All of which makes it mandatory for a skier's release bindings to operate as designed when he tumbles. To this end, the Coronado Ski Club, through the use of a Lipe Release Check purchased for the ski club by the Coronado Club offers employees the opportunity to determine if their ski safety bindings are correctly adjusted. Many good ski bindings, installed by commercial outlets, have never been adjusted and thus offer no protection whatever. Bindings should release when there is a strong twisting-type motion of the boot to either side (lateral release) or in a forward fall (vertical release).

"The problem can be particularly serious in the case of children who ski but whose parents hardly know a ski from a snowshoe," says Bill Stevens (1650), president of the 500-member ski club. "That's why we encourage use of the Release Check.

Having professional equipment like this available for skiers is a good example of the benefits of group activities through our Coronado Club."

The checking device is available at the ski clinics scheduled from time-to-time by the ski club and it can also be made available to individuals by special arrangement. Jim Griscom (2453) should be contacted at 264-3551 for arrangements.

Jim Manweiler (1222), a veteran member of the Sandia Peak Ski Patrol, recently checked 13 pairs of skis with the Lipe device. Of these one binding on one ski wouldn't release under any condition (the jammed mechanism may have been responsible for a damaged Achilles tendon in an early-season accident). The release mechanism on two other skis wouldn't open in one direction—metal burrs on the boot plates prevented function. As Jim says, "The checking device does detect possible problems which can be corrected before an accident occurs on the slopes."

In addition to this service, Safety Engineering Department 3350 has made available to Sandia employees copies of three articles on ski bindings, their installation and adjustment.



SAFETY BINDINGS on her skis are checked by Marie Syme (1010) for release tension before taking off on a winter holiday. The release check device is available through the Coronado Ski Club.

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CONRAD STAYNER (left) and FRANK MAESTAS (both 8245) talk over the material delivery schedule for a typical day at Sandia Laboratories Livermore. Activity of the Materials Management Division 8245 requires each man to drive 30,000 miles a year in the Bay Area.

Going Concern

Material Deliveries Keep Sandians 'On the Road'

Editor's note: To describe a day in the life of a utility operator, a LAB NEWS writer rode along on two Bay Area trips with drivers from Livermore's Materials Management Division 8245. A summary of events follows:

7:50 a.m. — we leave Sandia's parking lot and turn west toward Livermore on our way to the Livermore Airport. Two packages must be delivered aboard a chartered plane scheduled to fly to the Nevada Test Site at 9 a.m. Oncoming traffic is heavy. The driver's eyes shift frequently from the street to rear view mirrors. Caution is in order when kids are on their way to school.

The day started at 7:30 a.m. when John Barnhouse held up some delivery tickets and said, "This is what we've got for the day." John is dispatcher for Division 8245, and he was talking to Frank Maestas and Conrad Stayner (both 8245). A short discussion followed and the day's schedule was set.

As the pickup moved away from the loading dock at 7:45 a.m., radio communication was established with the dispatcher.

"Checker . . . this is Checker 1 . . . in service at Sandia . . . departing for Livermore Airport . . . ETA (estimated time of arrival) eight-ten." The driver's message was the first of several that would keep the Lab informed of our whereabouts. Moments later, a security guard checked

our badges and cargo and gave the "go ahead" through the tech area gate.

8:10 a.m. — we move slowly across an airport apron. Recognizing the pilot, the driver calls out, "Unclassified." We swing beside Carco's two-engine plane, and the copilot tells us where to place the cargo in the plane.

8:30 a.m. — the job at Livermore Airport is done.

Cautiously, the driver moves the pickup into the high-speed traffic of the four-lane divided highway. Within minutes we are part of the stream of heavy traffic heading west toward San Francisco.

To a lone driver, emergency stops along the freeway are both safety and security hazards. They're also inconvenient. It's essential to keep the pickup in the best possible operating condition. That's why the drivers treat their radio-equipped AEC vehicles with loving care. Regular maintenance checks on the vehicles don't satisfy the operator's need for reliability. He's always looking and listening for signs of trouble.

As we approach the toll plaza, the driver brakes gently to a stop. A hand on an outstretched arm accepts a bridge ticket. A shift of gears moves us into the flow of traffic heading across the San Mateo bridge.

9:55 a.m. — we back up to an air freight dock at San Francisco International Airport. With freight terminals relocating all the time, it was a stroke of luck to get to the one we wanted on the first try. The driver steps from the pickup and starts toward the office.

"Got a package for Sandia in Livermore?"

"Sandia? How do you spell it?" A short delay follows. Waybills are checked.

"Oh, yes. Here it is. Where's your truck?"

Material loaded, we got back in the pickup. Opening the glove compartment, the driver pulls out one of eight Bay Area Maps to double-check off-ramp and street locations. "The way streets change around here — especially with this BART (Bay Area Rapid Transit) construction — you have to check." Securing seat belts, we carefully pick our way out of the bustling dock area to the Bayshore freeway and head for San Francisco.

11:15 a.m. — we wait for a delivery truck to move out of the loading zone in front of the film-processing firm. No need to get a ticket for double-parking.

At the top of a narrow flight of stairs, the driver and a receptionist exchange friendly comments. Documents are identified and signatures exchanged.

11:45 a.m. — business is concluded with the film-processing firm.

Glancing at his watch, the driver decides to break for lunch. If we arrive in Oakland during their lunchtime, we won't be able to pick up the shipment at the tool and die plant anyway. The shortest route to the westbound freeway is along the Embarcadero, so we might as well brown-bag it near the park along the wharf.

12:30 p.m. — lunch is over. Sights of the Bay are interesting — ships going to sea, the gulls, people jogging, swimming, meditating.

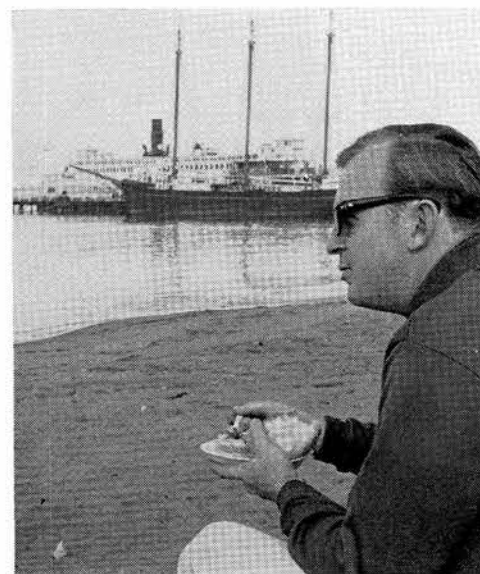
Traffic is heavy in the city. Several right and left turns put us Oakland-bound on the bottom deck of the Bay bridge.

LIVERMORE NEWS

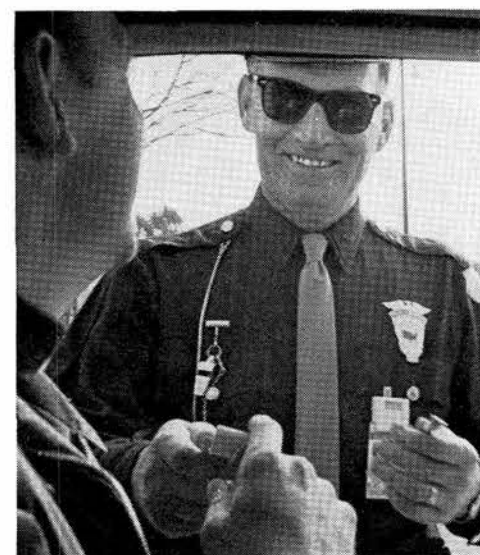
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SANDIA LAB NEWS

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Lunchtime.



Badge check by Inspector Taylor of Wachenhut Services.

Again, a ticket exchange. Quickly we're in the proper lane for the turn at the interchange just ahead.

1:15 p.m. — the route selected from the latest map of Oakland ends in front of the tool and die manufacturer's building. Comparison of purchase order number with the identity of the package indicates all is in order.

"Checker . . . this is Checker 1 . . . departing Oakland for Sandia . . . ETA 30 minutes."

2:10 p.m. — Sandia Shipping and Receiving people begin processing the off-loaded cargo. Time for more deliveries within the Lab or the Livermore area.

Frank and Conrad have ready remarks about their jobs.

"Time goes by faster on the road than it does in the Lab," says Frank, a veteran of 11 years of Bay Area driving. "I like coming to work. Haven't been sick but two days in years. Driving gives me a feeling of independence that makes the work enjoyable."

Conrad — driving two years for Sandia — says, "Driving has both good and bad features. Meeting accidents on the highways is always disturbing. In these situations, I try to be of help by radioing for the Highway Patrol or setting out warning flares when I'm first on the scene. Then, too, you're always learning something new. Judging from the addresses we go to, I don't understand how Sandia ever found some of their suppliers in the first place."

Ken Foster, supervisor of the Material Movement Section, notes, "Fast delivery and pick up was born of necessity at Sandia. Transportation facilities in the Livermore area are limited. The time Frank and Conrad spend on the road is really time saved for the project of an engineer or scientist in the Lab."

Congratulations

Joey Beatty (8171) and John Davis (LRL) married in Livermore, Feb. 8.
Marshall Meyer (8311) and Janette Richards married in Los Angeles, Dec. 26.
Mr. and Mrs. Bob Peterson (8183), a son, Christopher Ross, Feb. 5.
Cliff Yokomizo (8154) and Donna Tsudama married in Oakland, Jan. 25.
Aldis Andrejevs (8153) and Ligita Riekstins married in Seattle, Wash., Dec. 28.

Engineering Aids Medicine On Mar. 6 Colloquium

Dr. Donald Jewett and Dr. George Trezek will discuss "The Interface Between Engineering and Medicine: How Can Engineers Contribute to the Medical Science?" at the Livermore Laboratory Colloquium on Thursday, March 6.

The application of engineering techniques to specific medical problems will be covered. Included are the use of cooling techniques for neurosurgical approaches to focal epilepsy and the neurophysiology of behavior, and the prediction of electrical fields in the brain generated by an epileptic spike.

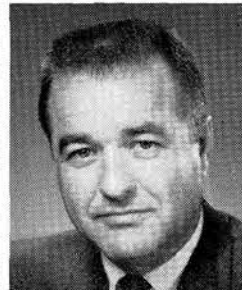
An Assistant Professor of Physiology and Neurosurgery at the University of California Medical School, San Francisco, Dr. Jewett received his MD at his present location; he also completed a PhD at Oxford University, Oxford, England and a two year Postdoctoral Fellowship at the Department of Physiology, Yale University.

Dr. Trezek received his PhD at the University of Illinois. He is presently Assistant Professor of Mechanical Engineering at the University of California at Berkeley and serves as a consultant to Sandia Laboratories Livermore.

Tickets will be required for admission. Host for the Colloquium is Alec Willis (8313).

Supervisory Appointment

MARVIN GLAZE to manager of newly-created Security, Safety Engineering, and Environmental Health Department 8260, effective March 1.



Marv joined Sandia Laboratories Albuquerque in January 1952 in the accounting organization and in July 1956 transferred to Sandia Laboratories Livermore. Shortly after his transfer, he was promoted to section supervisor in accounting and business methods, and in January 1958 was promoted to division supervisor. As a division supervisor at Sandia Laboratories Livermore, he has headed the Accounting and Financial Division for over five years, the Personnel Division for a year and a half, the Purchasing Division for three and a half years, and most recently the Security Administration and Operations Division since last May.

Before coming to Sandia, Marv studied at the University of Idaho and later received his BBA in accounting at the University of New Mexico in January 1952. Previously he served two years in the U. S. Navy.

He is a member of the American Society for Industrial Security.

Mar. 14 Colloquium Topic 'Lunar Material Analysis'

Senior physicist at Oak Ridge National Laboratories, Dr. Robert A. Weeks, presents "Lunar Material Analysis: Magnetic Resonance" at the Livermore Laboratory Colloquium on March 14.

Lunar surface material is unique in that conditions of vacuum, meteorite impact, thermal cycle and radiation exposure may have produced forms never produced by terrestrial processes. Dr. Weeks' primary research interests include the properties of lunar material with emphasis on the defect states of crystalline and glassy materials and paramagnetic properties of the material. Procedures for containment of lunar samples and handling before and during material investigations will be discussed and Orbiter and Surveyor photographs shown.

Dr. Weeks, who earned a PhD from Brown University, is now one of the principal investigators in the NASA Lunar Material Analysis Program. Dr. Weeks is also an associate editor of the JOURNAL OF GEOPHYSICAL RESEARCH.

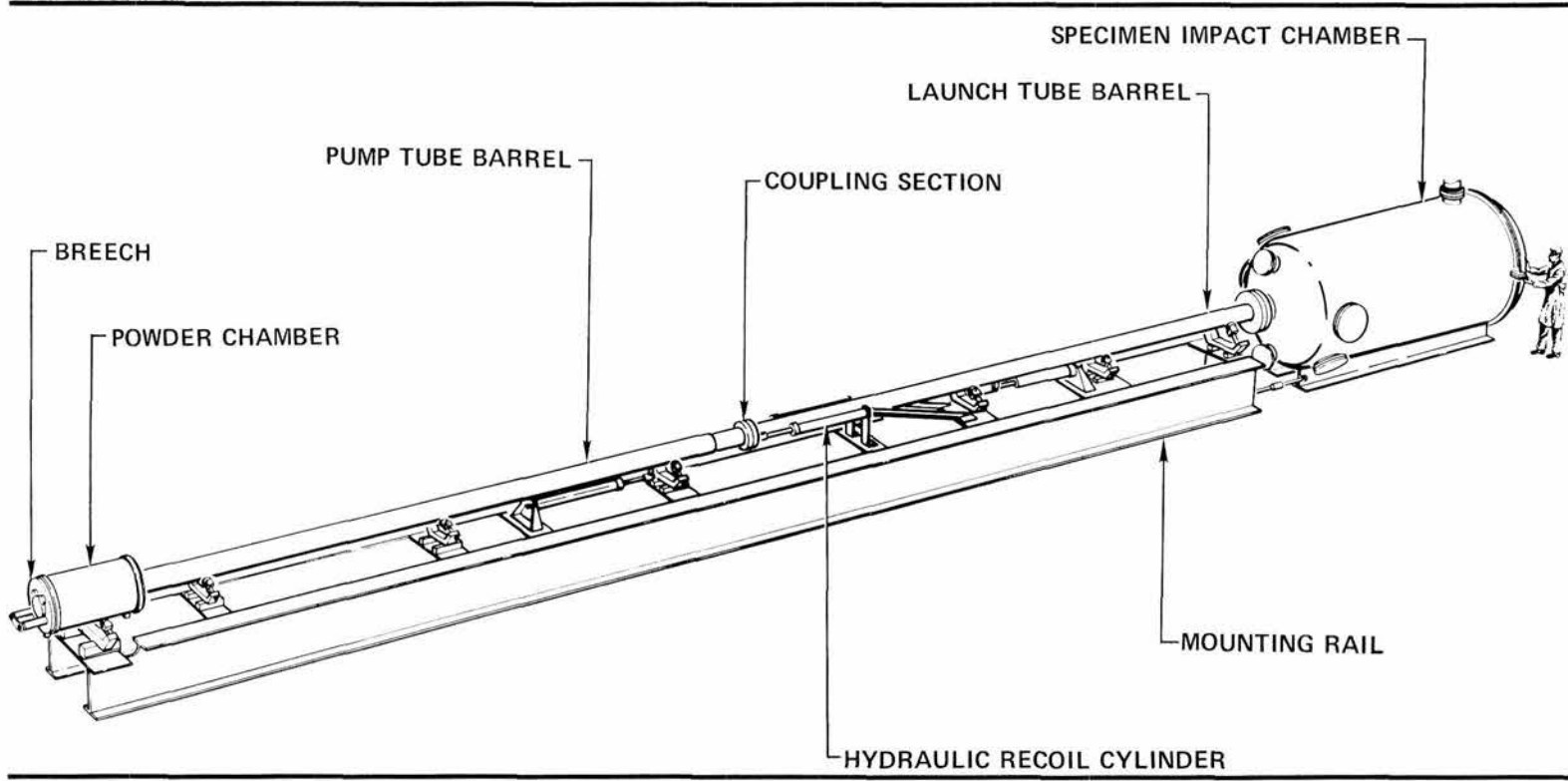
Tickets will be required for admission. J. C. King (8300) is host.



Cargo going aboard at Livermore Airport.



Mission completed at San Francisco Air Freight terminal.



BIG GUN FROM COYOTE—Eighty-seven feet long and with a bore of 3.5 inches, this new high-velocity gun facility is going into Coyote Test Area. Purpose is study of various materials under conditions of

extreme mechanical shock which is generated by projectile impacting upon specimen in chamber at right.

Extreme Mechanical Shock Purpose of New Test Facility

A new high-velocity gun facility is being installed at Coyote Test Area. The gun — 87 feet long and with a 3.5-inch bore — will be used to fire projectiles at various materials in order to gather scientific data on the behavior of these materials under conditions of extreme impact.

Impact velocity will reach a maximum of 8000 to 10,000 feet per second (fps) — nearly seven times the speed of a .22 bullet — and will exert pressures of several million pounds per square inch upon the experimental materials. At these pressures, normal solids are compressed much below their original volume.

Studies of the reaction of materials to extreme mechanical shocks are important in the design of components and systems which may experience severe impact in actual use. Experiments with different metals, alloys, ceramics, plastics and composites help engineers choose the ideal material for different applications under shock loading. It also provides the scientist with a more fundamental understanding of the materials themselves.

The new gun will help fill the "data acquisition gap" between information now acquired with Sandia's compressed gas guns and that from the laboratories' high-explosive test facility. Existing gas guns of this diameter attain velocities up to 2000 fps, while the explosive facilities provide extreme conditions, equivalent to 5000 fps and above.

The new gun will be fired by igniting a charge of conventional artillery powder weighing up to 20 pounds. The explosion propels a two-pound projectile (sabot) and impactor through the barrel to the target. Since the experiments require precisely controlled impact conditions, the barrel must be honed to a tolerance of one ten thousandth of an inch and aligned to 20 thousandths of an inch along its entire length before each test.

Performance characteristics of the gun are enhanced by special operational measures and by the extreme length of the barrel. As in similar guns, the bore is evacuated to a very low pressure, equivalent to about one micron of mercury, to minimize effects during impact that might be the result of atmospheric pressure.

The test material may be mounted either on the sabot or placed as a target at the muzzle. Instrumentation which will record data on material deformation will provide a resolution of a few billionths of a second in time and a few millionths of an inch in displacement.

"We fully expect the gun to give a several-fold advance over the current explosive techniques," says Darrell Munson, project leader and supervisor of Shock Wave Phenomena Research Division 5163.

Provision has been made in the gun facility for a later modification to make it a two-stage, light gas gun capable of firing projectiles at far greater velocities.

For this mode, the gun barrel would be

divided into two parts, separated by a chamber which reduces the bore from 3.5 inches to 1.16 inches. In the first part of the barrel an explosive-driven projectile — a 30-pound lead-loaded polyethylene cylinder — would be used as a high-velocity piston to compress helium or hydrogen gas pumped into the bore. The gas thus compressed would funnel into the small

bore where compressions up to 250,000 pounds per square inch would be reached. The force of the compressed gas would then be used to impel a small projectile at its target at velocities up to 30,000 fps.

The new facility is planned for completion in late fall of this year and should be operational shortly thereafter.

Hillman Frock Creates Striking Jewelry to Display Unique Stones

Hillman Frock is a Sandia security inspector who, for many years, has roamed the mountains and deserts of New Mexico rockhounding. For the past two years he has devoted his leisure hours to learning the skills of jewelry-making in order to display some of his spectacular rock findings.

Last week he displayed a box of his jewelry creations on a background of black velvet and the results were spectacular. Hillman has put together an unusual collection. Each piece of jewelry—whether necklace, bracelet, ring, tie tack, bolo tie or earring—is designed to accentuate the qualities of the stone. He uses simple, striking designs.

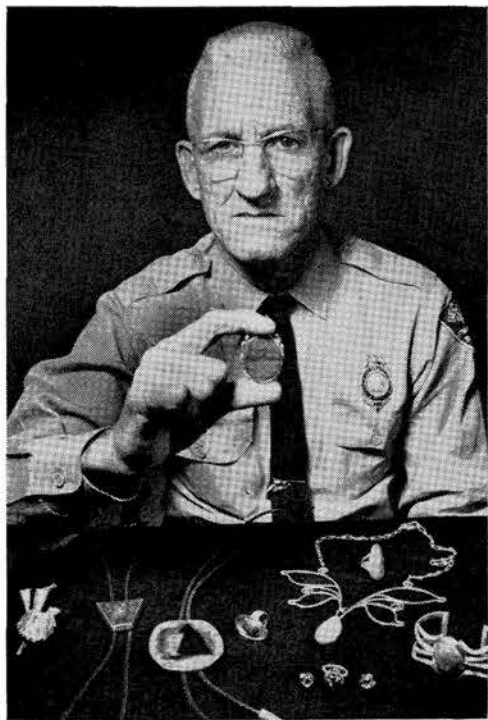
One of the more unique pieces is a brooch whose stone has a realistic image of a mushroom cloud rising over desert terrain similar to that at the Nevada Test Site. The sky area is a blue-green while the desert is a sandy brown color. It is a completely naturally-occurring image. All Hillman did was polish the agate and mount it.

Another rare piece, presented as a bolo tie, is a figure of a kneeling nun, again a natural image in the stone.

Most of the mountings for the stones are made from silver sheets and silver wires. Hillman cuts and bends the silver with conventional tools — pliers, files, soldering iron — to hold the stones.

His stones run to the exotic. One bolo tie uses a piece of petrified dinosaur bone while other pieces contain black jade found in Wyoming.

Hillman's favorite areas to "rockhound" include the Rio Puerco dry stream bed, the mountains around Taos and the Albuquerque West Mesa area. Most of the



UNIQUE DESIGN in agate stone has nuclear testing motif of mushroom cloud. Hillman Frock (3520) incorporates unusual stones into bolo ties, necklaces, bracelets, etc.

jewelry making is done during the winter months. In the summertime he spends about every weekend in the hills.

He enjoys the jewelry-making so much that now he's making plans to enter the polished rock and jewelry business when he retires in a couple of years.

Supervisory Appointments

KENNETH GILLESPIE, from supervisor of Timers Division 2326 to Manager, Electromechanical Department 2320, effective March 1.



Ken has worked at Sandia for 18 years. He started in the Electromechanical Department where he has since served as section and division supervisor. His work has been chiefly in the areas of component design and development.

Before joining the Laboratories, he was a construction supervisor with the Peter Kewitt Construction Co. in North Dakota.

He holds the BSME and the BBA degrees from the University of Colorado in Boulder. Ken has also taken graduate work in mechanical engineering at the University of New Mexico.

During WW II, Ken served three years in the Army Air Corps.

WALTER TROY to supervisor of Patrol Division 3522, effective March 1.



Walt joined Sandia Laboratories Albuquerque in February 1957. He worked in the security standards group for about three years, the Classification Division for eighteen months, and the Physical Security Division for six years. In this latter assignment, he was responsible for training security personnel and helped develop the physical conditioning program for guard force personnel. In January 1968, he transferred to Sandia Laboratories Livermore where he has been involved primarily in special studies and computer and cryptographic security.

Earlier, Walt had been an assistant professor at Arnold College in Milford, Conn., a special agent with the Federal Bureau of Investigation, and an arson investigator with the National Board of Fire Underwriters.

Walt is a graduate of Columbia University where he earned a BA degree in history in 1946 and an MA in education in 1948. Previously he served three years as a second lieutenant with the U. S. Marine Corps.

He is a member of the Society of Former FBI Agents.

TOM PRIDDY to supervisor of Structural Mechanics Division 1542, effective March 1.



Tom first came to work for Sandia in 1961 and worked with the Structural Analysis Division until 1965 when he took a leave of absence to earn a PhD in engineering mechanics at the University of Texas.

After obtaining the degree in 1967 he joined the Analytical Development Division where he specialized in filamentary shell analysis.

Prior to joining Sandia, Tom worked several summers with Texas Instruments Co. in their mechanization department.

He received a BA degree in mechanical engineering from Texas Tech, and an MA in the same field from Texas A&M.

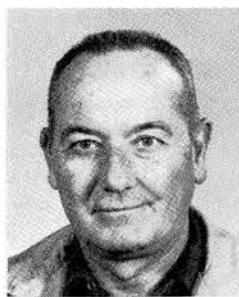
A registered professional engineer in New Mexico, Tom served with the U.S. Army from 1953 to 1955.

Anti Matter

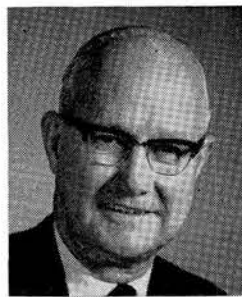


Service Awards

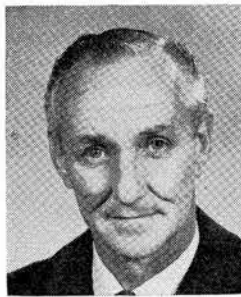
20 Years



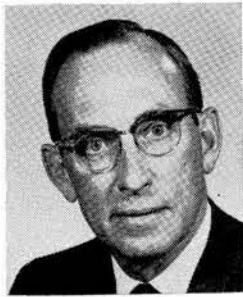
Armstead Arrington
4514



Edward Baldwin
8210



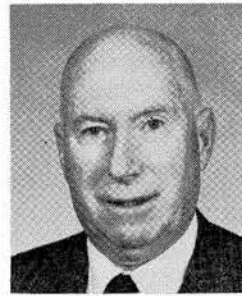
Frederick Brown
7311



Edward Johnson
9300



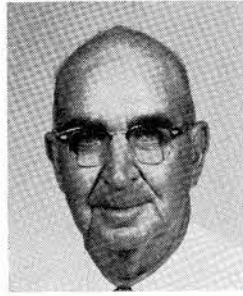
José Jojola
4513



John Kirby
7414



Richard Porter
7453



Andrés Sánchez
4575

15 Years



Lora Duben
5430



Willard Farness
4544



William Flynn
3520



Bess Roach
8242



Victor Roh
1224



Walter Schmedt
4153

10 Years

Feb. 28 - March 13

Sue Williams 1740, Robert Luckey 4100, Paul Jones 2552, Hans Baerwald 5153, James Doggett 7321, Allan Scott 8168, Donald Hanson 9239, Francis Corey 2442, Frank Casner 2491, and Willie Servis 3421.

PAGE FIVE

SANDIA LAB NEWS
FEBRUARY 28, 1969

From African Walnut

Lyle Kruse Builds Grandfather Clock

Lyle Kruse (9143) is very comfortable around any kind of electronics project — assembling a hi-fi, repairing a TV, or building an electric guitar with amplifier. He had never tackled a major wood-working project but back in October he started one which finally consumed about 300 hours of leisure time.

"Leisure time? I worked like a dog," he says. "Every spare minute."

The project was building a grandfather clock. The finished piece is now the handsome focal point of his living room, a keeper of accurate time, a teller of phases of the moon, and an instrument which fills (every 15 minutes) the whole house with softly reverberating chimes (the sounding board is bolted to the wall).

Lyle obtained the clock works and plans for the cabinet as a kit. The brass works came from West Germany and include an etched brass dial face with inlaid silver.

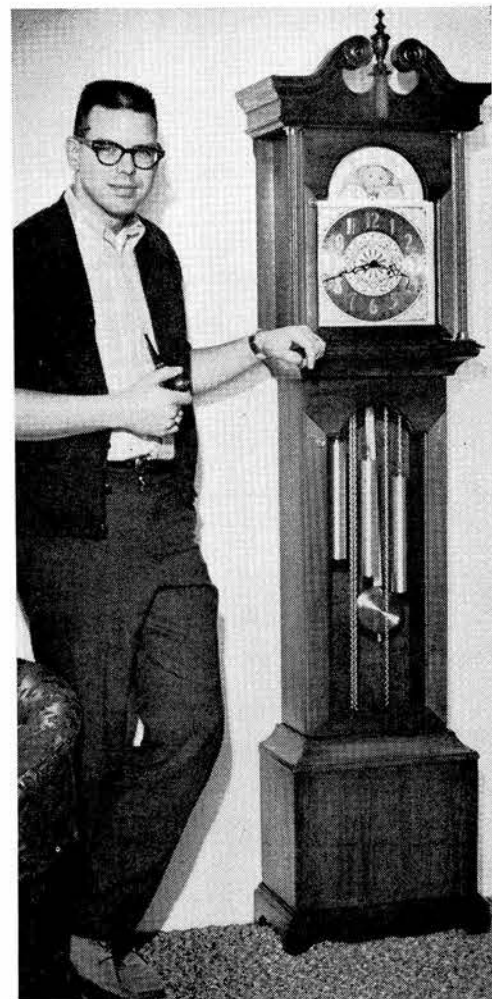
The cabinet is built primarily from African walnut, one of the "hardest woods I've ever seen," Lyle says. "I broke saw blades, screw drivers and dulled every tool I used." The cabinet was constructed in his father-in-law's hobby shop which is completely outfitted with power equipment.

Getting the desired finish was the most time-consuming part of the project. Lyle started with coarse sandpaper and worked down in degrees until he finished with very fine sandpaper and steel wool. He then stained the cabinet, oiled and waxed it. The grain has a deep hand-rubbed luster.

Lyle moved the cabinet from the shop into his living room where the delicate installation of the works and adjustment of the pendulum took place. The cabinet had to be completely level and bolted to the wall.

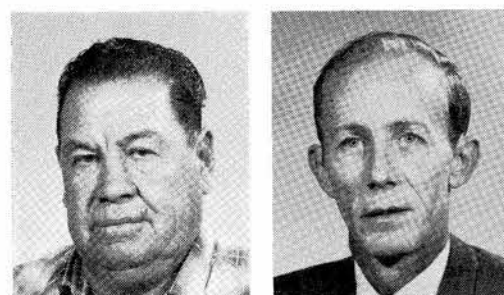
"I was lucky," Lyle says. "It took only two weeks to adjust the length of the pendulum for accuracy. Now the clock loses only a few seconds during every eight-day wind period — that's about as close as I can get it."

Mrs. Kruse was very happy to receive

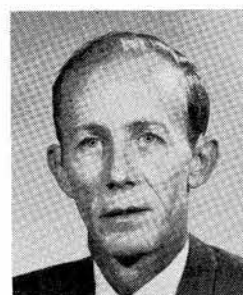


A REAL STEM-WINDER—Lyle Kruse (9143) displays the grandfather clock he built in some 300 hours of spare time. It was a Christmas present for Mrs. Kruse.

the clock as a Christmas present. Now there's only one problem — what to do when the new baby reaches the toddler stage? Lyle has threatened to make the living room off limits.



Flaviano Sanchez
4573



Jack Smith
2342

Basketball Crown to 9400

A powerful 9400 team won the Sandia Laboratories basketball championship by breezing through the playoffs with wins of 71-63 over AEC, 47-42 over 1000, and 71-30 over 7300 in the final game. The final match was set up when 7300 beat 1000 70-48 and AEC 52-48 in overtime, after having earlier lost their first game with 1000 48-45.

Players on the championship team were: Neil Horton (9413), Bill Swartz (9425), Larry Ellis (9425), George Luna (9411), John Spitzer (9426), Jess Betlack (9425), Ken Flynn (1551), Lou Cropp (9413) and Bobby Collins (9411).

Sympathy

To James Kohl, Jr. (2315) for the death of his father in Phoenix, Feb. 12.

To Don Browning (9132) for the death of his mother in Malin, Ore., Feb. 20.

To Herald Kingsbury (4513) for the death of his wife, Feb. 20.

Authors

L. R. Edwards (5131), "Transport Properties of Thulium Single Crystals," Vol. 176, No. 2, PHYSICAL REVIEW.

H. R. Farley (5235), "Technical Education from the Technician's Point of View," December issue, SCIENCE EDUCATION (American Association for the Advancement of Science).

R. T. Johnson, Jr. (5132), "Detection of Axial Screw Dislocations in BaTiO₃ Whiskers Using K_α X-radiation," Vol. 39, No. 13, JOURNAL OF APPLIED PHYSICS.

A. Narath (5100) and D. C. Barham (5151), "Nuclear Magnetic Resonance in the Metal ReO₃: ¹⁸⁵Re and ¹⁸⁷Re Knight Shifts and Spin Relaxation Rates," Vol. 176, No. 2, PHYSICAL REVIEW.

W. R. Perret (9111), "Shear Waves from

a Nuclear Explosion in a Salt Cavity," Vol. 58, No. 6, BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA.

F. L. Vook and H. J. Stein (both 5111), "Infrared Absorption Bands in Carbon and Oxygen-Doped Silicon," Vol. 13, No. 10, APPLIED PHYSICS LETTERS.

R. G. Dosch (5421), "Double-Pion Electro- and Photo-production Viewed from Mass-Dispersion and Current-Algebra Theory," Vol. 50, No. 3, ANNALS OF PHYSICS.

R. C. Wayne (5132) and F. A. Smith (Argonne National Laboratory), "The Pressure Induced Metamagnetic Transition in AuMn and the Pressure Dependence of the Ferromagnetic Curie Temperature," January issue, JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS.

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CLASSIFIED ADVERTISING

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

RULES

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

FOR SALE

MISCELLANEOUS

- 11 CU. FT. Hotpoint refrigerator, \$75; tent, inside poles, w/floor, \$12; folding high chair, \$4.50; refrigerated air conditioner, \$20. Fjelseth, 299-4539.
- 7.50 X 14 SNOW TIRES, used one season, 2 for \$25; trailer hitch, \$5. Sektman, 296-5396.
- CB TRANSCEIVER, Johnson Messenger 110, including crystals for 5 channels & antenna, \$85. Whalen, 298-1330.
- SEAR'S Series 15 furnace power humidifier w/control, \$25. Peurifoy, 296-5907.
- DISHWASHER, Waste King, under counter style, works, \$30; humidifier, attaches to furnace, new \$75, sell for \$25. Gutscher, 298-6563.
- 54" MAPLE BUFFET; step table; coffee table; refrigerator; fur cape; stole; 3-pc. sectional. Libby, 299-5948 after 6.
- NORGE electric clothes dryer, \$29; acrilon plush-pile blue carpet, 13'x17', \$69; FrigKing auto AC components, make offer. Chandler, 296-3325.
- '64 24-volume-set Colliers encyclopedias plus 4 year books, \$125, including bookcase, cost \$350. Konnick, 296-3906.

TENT TYPE CAMPER, Sear's '64 model, used very little, cost \$589, sell for \$300. Hutton, 255-7435.

FOUR 5-place settings, 6 misc. pieces, Gorhams "buttercup" sterling silver, \$312 value for \$180. Fink, 877-1127.

PURE BRED BEAGLES, papers available, \$35 ea. Roh, 299-3749 evenings only.

COMPLETE 12-piece drum set w/Slingerland snare, slightly used, \$150. Funk, 299-2239 after 6 weekdays.

SOFA, Early American, 2-cushion, 85 inches long; coffee table, maple, 45 inches long; skis, Mercury, 200 cm, metal, w/bindings. Alden, 255-4827 after 5.

'65 NORTON 750cc scrambler w/tools, shop manuals & parts catalogs, also w/severe engine failure, make offer. Mason, 298-4623.

USED 17" Airline portable TV, \$25. Holliday, 298-8106.

21" RCA TV, \$75. Shunny, 256-7391.

'59 FRANKLIN TRAILER, 8'x25', full bath, insulated, at Conchas Lake, \$1195, no trades. Geibel, 299-0275.

STEREO RADIO, 4-track car tape stereo plus 5 tapes, \$35. Beroldi, 344-5802 after 3.

SEAR'S tent, 9x15, poles, \$50. DeVargas, 299-0477.

BICYCLE, 26", middleweight; kitchen table, formica top & 4 reupholstered chairs. Guist, 299-9060.

SILVERTONE GUITAR, 2 pickups w/vibrato coil cord & case, new light gauge strings, \$60. Ruminski, 256-0770.

DANISH modern walnut bedroom suite, dbl. bed, dbl. dresser, night stand, mattress & box springs, \$50; 8mm roll-type B&H movie camera, \$15. Venner, 268-8703.

'67 FAN travel trailer, 17', self contained, 3 new tires, hitch, sway bar control, easy lift hitch, \$2300. Lathrop, 298-8638.

LUGGAGE, man's 3 suiter Samsonite Royal Traveller never used, \$30, used 2-suiter, \$8.50, small leather bag, \$10. West, 255-0456.

SCOTT stereomaster 260, 160 watt solid state amp., new \$260, asking \$135; Scott LT-110 stereo FM tuner, new \$250, asking \$125; both for \$240. Kjeldgaard, 296-2212 after 5:30.

USED flower pots, 1 to 20c ea. dependent on size. O'Neill, 255-6355.

MALE miniature Schnauzer, 12 wks. old, reg., champion blood lines, dark salt & pepper coloring. Jones, 298-3891.

CAMPER, 8' cabover for wide box pickup, \$450. Bohannon, 221 Green Valley Rd. NW. 344-9235.

CRAFTSMAN drill grinding attachment, sharpens twist drills, unused, \$5. Sims, 255-6967.

HORSE TRAILER, '66 Safari 2-horse, 4 wheels, purchased new 1967, less than 250 miles, '69 license, about \$800. Corwin, 256-0779.

TOY POODLES, silver, champion lines, AKC reg., 2 males, 1 female. Chavez 298-0674.

DOUBLE BED w/bookcase headboard, \$35. Husa, 298-3335.

MOBILE HOME, good for mountain cabin, \$1600; refrigerator, \$30. Hawk, 265-2228.

'54 TRIUMPH 650cc motorcycle, \$225; trade scintillator for good metal detector worth \$150. Ernst, 344-8694.

SKIS, Skitique Lucerne, cable binding, safety strap, 165 cm, no toe piece, used, \$10. Garst 299-5870.

BEIGE NYLON carpeting, 30 sq. yards, \$50; sewing machine, walnut cabinet, all attachments, \$35. Brown, 255-0566.

'66 BROOKWOOD mobile home, 55x10', rock maple early American LR furniture, paneled walls, washer, AC, \$3795 completely furnished. Matlack, 256-7371.

PUPPIES, Husky cross, \$5 or make offer. Reilly, 298-6129.

CARS & TRUCKS

'60 VW sedan \$350. Everett, 636-2544 (Bosque Farms).

'61 VALIANT 4-dr., std. trans., R&H, \$150. Crepin, 298-2858.

'56 PLYMOUTH 4-dr. Savoy, original owner, \$350. Hostetter, 256-3803 after 5.

'67 OLDS Delmont 88, power, heat, AC, 4-dr., 425 engine; '58 Mercury trailer rebuilt inside. Neel, 299-9309.

'58 RAMBLER Ambassador 4-dr. sedan, PS, PB, AT, best offer. Busby, 299-6450.

'34 NASH 4-dr., 8-cyl., 31,000 actual miles, 90% original, sell for \$1450 or trade for travelall of equal value. Longfellow, 299-7062.

'59 DESOTO, 9 pass., PS, PB, AT, factory air, new brakes emergency included, new battery, \$285. Barber, 299-1752.

'56 PLYMOUTH, V8, AT, R&H, 4-dr., it runs, any offer over \$50 will not be considered. Gholsan 299-2663.

'67 REBEL RAMBLER, 353 cu. in. V8, 11,000 miles, \$1800. McCrory, 299-1294.

'65 FORD custom 500, 4-dr., V8, AT, PS, factory air, \$725. Lambert, 344-9021.

'67 3/4-ton pickup w/10 1/2' self-contained camper, 12,000 miles, safety bumper & trailer hitch. Smith, 299-7506 after 5:30.

'64 THUNDERBIRD, white, all power & air, \$1250. Montoya, 264-9642 after 5.

'60 DODGE convertible, PS, PB, AT, R&H, '69 tags, red w/white top, recently tuned. \$350. Martinez, 268-6297.

REAL ESTATE

PRIMITIVE WILDERNESS AREA river front tracts in Chama box, jeep access, restrictions, title insurance, terms, pictures, plats, maps. Jolly, 877-2474.

3-BDR. BRICK, near base, 5/4% loan, hw/floors, carpets, drapes, sprinklers, AC, 1200 sq. ft., \$16,500, 915 Florida St. Russo, 265-0957.

3-BDR., 1 1/2 baths, dbl. garage, covered patio, AC, buy equity assume payments \$108. Ristine, 299-4308 after 6.

LOT, Grandview Heights, near Cozanzo High School, 10% under current value. Manzer, 296-3180.

NE HTS. Ashcraft Addition, buff brick, landscaped, sprinklers, 3-bdr., 1 1/2 baths, den separate DR, screened patio, dbl. garage. Martin, 268-2020.

SE. 3-bdr., 1 1/2 baths, den, patio, new carpet, \$20,000, \$17,700 mortgage at 5 1/4% FHA, near Bandler school. Touryan, 265-2284.

MOSSMAN, 3-bdr., den, lg. shaded private patio, landscaped, for minimum maintenance. LeRoy, 296-2953.

3-BDR. MANKIN, carpet, new cooler, fenced corner, 5/4% VA at \$92/mo., down payment flexible. Suchland, 298-2502 after 5.

FOR RENT

FURNISHED duplex apartment, 2-bdr., wall to wall carpet, automatic washer, garage, utilities paid, no pets, 607 San Pablo SE. Berger, 255-0265.

WANTED

COMPOST SHREDDER. Muench, 264-5137.

2-BDR. HOUSE in NE Hts., between Louisiana & Carlisle. Landavazo, 256-9638.

BABYSITTING in NE Hts. Downs, 299-1537.

WOMAN'S and youth right-hand golf sets. Swain, 265-0098.

PLYWOOD, used, 4' x 8', 3/8" thick, can use grade C-D. Windham, 256-9455.

USED 1 1/2 to 3-ton hydraulic jack. Holliday, 298-8106.

OLD PLAYER PIANO music rolls; old Edison phonograph records & cylinders. Sander, 299-5761.

LARGE female dog for country place, should be good w/children. Miller, 282-3189 after 6.

POOL TABLE, used-good condition. Barton, 255-5491.

OLDER MODEL University 308 3-way 8" speaker. Prohaska, 298-8497.

LOST AND FOUND

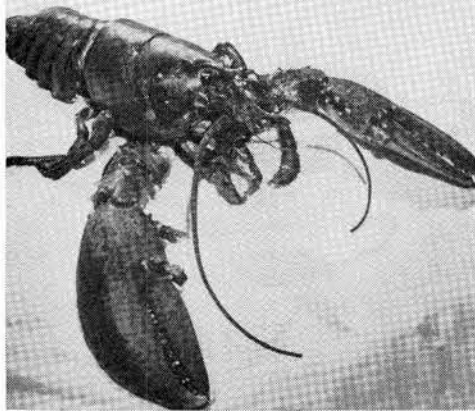
LOST—Single strand of pearls, approx. 5 keys in leather folder, Rx sunglasses. LOST AND FOUND, tel. 264-2757, Bldg. 610.

FOUND—Rx glasses w/brown frames, single VW key, pocket knife, amber colored earring, black nylon scarf, ladies off-white pigskin glove, concert ticket. LOST AND FOUND, tel. 264-2757, Bldg. 610.

Coronado Club Activities

Lobster Tomorrow, Corned Beef Mar. 15 on Packed Club Calendar

A capacity crowd of 300 will dine magnificently tomorrow night at the Coronado Club. Live lobsters and fresh clams have been flown in for the occasion and a free wine taste is included in the festivities. The MBC Trio will be playing for dancing.



THE BRAVEST MAN who ever lived was the first man who ate a lobster. Regina Herrera (AEC/SAO) is charmed by the idea as are the 300 guests expected to dine tomorrow night on lobsters and clams at the Coronado Club.

Sandia Safety Signals

Value of Seat Belts Proved Once Again

Two Field Test engineers are among the latest Sandia employees to testify as to the real lifesaving value of automobile seat belts.

The men had completed a field test project north of Edgewood and were enroute back to Sandia on State Route 344, when their 1965 Dodge pickup truck struck a windrow of gravel which had been pulled to the center of the road by a road grader. When the left front wheel of the pickup struck the loose gravel, it resulted in its being pulled to the left and onto the soft shoulder of the road; and when the driver attempted to pull the pickup back onto the road to avoid striking a steel culvert, the vehicle skidded sideways and turned over one and one-quarter times, and came to rest on its left side.

Although the accident resulted in extensive damage to both sides, front and roof of the vehicle, including almost complete demolishment of all glass in the cab, both occupants were able to walk away from the overturned vehicle, neither of them critically injured.

The driver was hospitalized for five days from a low back injury, suffered when struck by a lug wrench which had been left lying loosely in the cab. He has now returned to work. The passenger, although shaken up, received only minor injuries which resulted in one day's lost time.

The National Safety Council estimates conservatively that 25,000 lives could be saved annually through the use of seat belts. Undoubtedly, in this instance, the use of seat belts prevented fatal or critical injuries to the employees.

St. Patrick's Day Dance

On Saturday, March 15, Tommy Kelly and the Smiling Irishmen will play for the Coronado Club's St. Patrick's Day dance. Corned beef (what else?) will be on the menu. The fun starts at 7 p.m. when dinner is served. At 8:30 the Hilarys will entertain. Dancing follows from 9 to 1 a.m. Tickets cost \$2.50 for members, \$2.75 for guests.

* * *

Social Hours

Tonight, the Rhythm Masters will play for dancing while the Mexican food buffet is served.

On Friday, March 7, the Coronado Club's famous chuckwagon roast beef will be the menu feature while a group called "The Fanfares" hold the bandstand.

Phil Graham and orchestra will play for dancing on Friday, March 14, while the chicken buffet is served.

On Friday nights, Cheryl Warmke and piano entertain with a sing-along in the main lounge from 9 until midnight.

Don't forget the Tuesday night social hours from 5 to 8 p.m. with special prices in the main lounge.

* * *

Fashion Show

Rosario Ayres and a group of models will show fashions from Lillyans during the lunch hour at the Coronado Club, Thursday, March 6.

* * *

Teen Go-Go

Teenagers will do their thing Saturday, March 8, at a go-go featuring a group called "The Triangle." Member parents should pick up tickets.

* * *

Bridge

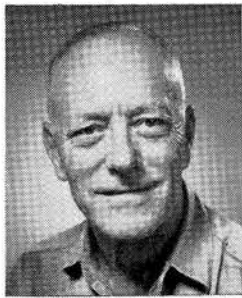
The duplicate bridge group will hold an open pairs championship competition on Tuesday, March 4. Ladies Bridge meets Thursdays at 1 p.m.

* * *

Game Nights

Members should check their club calendar for some gigantic prizes being offered on Wednesday evenings.

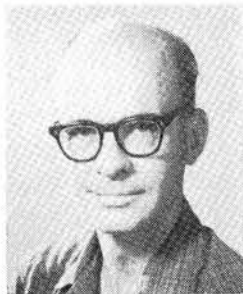
Retired



in New York.

Mr. and Mrs. Brown will continue to live in Albuquerque at 1328 Princeton Dr. NE. Herb says he has a number of house and yard projects to keep him busy for some time. The Browns plan to make a trip to the east coast to visit their son who is attending college at Long Island, N. Y., and to see other relatives. Herb says he will devote as much time as possible to his hobbies of writing novels, drawing and painting.

Death



David McGiboney, Jr., a staff assistant in Instrumentation and Dosimetry Division 3313, died unexpectedly Feb. 17. He was 48.

He had worked at Sandia Laboratories since October 1950.

Survivors include his widow, two daughters and two sons.



THE HILARYS, who sing for their supper, are (clockwise from left) Mary Kay, Daton Hill, Ron Day (3132) and Roger Eaton (9342).

The Hilarys

For Swinging Singing Group Music Is Fun, Games and Protest Songs

Supposedly, "The Hilarys" is a name which comes from an obscure Latin word meaning "hilarity, fun, frolic" and things like that. The name is so obscure we couldn't find it in our Funk and Wagnalls.

However, the Hilarys is a singing group which has a lot of fun performing and its time in obscurity is limited. In recent months the group has made a name for itself singing for conventions, banquets, schools, hospitals and at churches. They will sing soon for the Coronado Club.

Ron Day is a professional educator who, during working hours, worries about Sandia's out-of-hours educational program for Division 3132. He is chief song writer for the Hilarys.

"Chief Songwriter, ugh," says his wife Mary Kay who is also his fondest critic and favorite Indian girl. Mary Kay sings a swinging alto with the group, bangs a mean tambourine, and occasionally treats a tender melody on the clavietta, an instrument that looks like a fat clarinet with a piano keyboard.

"Ron writes pretty songs," Mary Kay says, "but audiences prefer tunes like 'Old

Joe Clark' or 'Up a Lazy River.' Besides that, I'm Irish."

"Yeah, or they like guitar solos on tunes like 'Wide River,'" says Roger Eaton, a PhD-type mechanical engineer in Division 9342. Roger plays a lot of guitar solos and sings bass.

"Or my dum-dum-dum-de-dum on the bass fiddle," says Daton Hill who during daylight hours is a junior high school physical education instructor. Daton plays a lot of dum-de-dum on the bass fiddle and also handles the baritone solos.

"I'm glad you said that," Daton says, "but I'd rather play guitar." He does play guitar when the others can't stop him.

"Hold it, hold it," Ron says. "We were talking about my songwriting."

Well, Ron writes happy songs like "Slow Down Boy" or "Hey, We Got a Song to Sing."

"And then I wrote 'Not Until You,'" Ron says, "which is a love song about a guy who is no longer uptight with the world or anything and just loves his girl."

"That's me," Mary Kay says, banging her tambourine.

"Mush," Roger says. "What we really sing are protest songs. We like 'Why Is There War?', 'Little Brown Shack,' 'Lone Wild Bird,' and 'Blowing in the Wind.' Not so much fun and games but musical comment on the events of our day."

"What people really like," Ron says, "is banjo playing." Ron plays a "long-neck" banjo and a "blue grass" banjo.

"He's pretty good," Mary Kay says, "but he can only play them one at a time."

"Four-four time, three-four time, six-eight time, what difference does it make?" Ron says. "Hey, that could be the title for a song . . ."

"A protest song with a lot of guitar solos," Roger says.

He starts playing a guitar solo. Daton fills in with a dum-de-dum on the bass fiddle. Mary Kay bangs a mean tambourine. Ron strums the banjo.

* * *

The above is a two-minute commercial for The Hilarys, a group of singing nuts who, after six years of rehearsal, are ready to perform for conventions, banquets, hospitals, schools and occasionally for money. They sound something like the Kingston Trio or the Limelighters or Peter, Paul and Mary — only different. You can hear them March 15 when they present some special entertainment at the Coronado Club during the St. Patrick's Day dance.

Events Calendar

Feb. 28-March 2—Harold Pinter's "The Homecoming." Old Town Studio, 1208 Rio Grande NW, for reservations tel. 242-4602.

March 1—WAC Conference basketball, New Mexico vs. Utah. UNM Arena.

March 1-2—YWCA charter bus trip to White Sands National Monument and Carlsbad Caverns. For information, tel. 247-8841.

March 1—Evening loop trip above Cochiti Dam. N.M. Mountain Club, leader Bill Grohe, tel. 243-1051.

March 11—Broadway comedy hit, "You Know I Can't Hear You When the Water's Running." UNM Popejoy Hall.

March 13—Albuquerque Symphony Orchestra, Jose Iturbi conducting. UNM Popejoy Hall.

Congratulations

Mr. and Mrs. Edwin Summons (1812), a son, Andrew George, Feb. 7.

Mr. and Mrs. Ron Ewing (5235), a daughter, Megan Jan, Feb. 11.

Mr. and Mrs. Celedon Gabaldon (9574), a daughter, Celeste Rose, Feb. 6.