



AT SANDIA HIGH SCHOOL William J. Meikle, Advanced Development Explosives Division, taught three chemistry and two mathematics classes while the regular instructor was attending a seminar at Sandia Laboratory. Students indicated great interest in explosives, propellants, and rockets and listened attentively.

Sandians Praise Knowledge of High School Science Experts

Science students in Albuquerque high schools are remarkably advanced. That is the opinion of 22 Sandians who traded places with teachers for one day recently.

While the Sandians were taking over teaching duties, the regular educators were attending a science seminar at Sandia Laboratory. Featuring Physical Sciences Research Department 5150 personnel, the seminar presented information on advances in technology and science.

"Comments from the teachers indicated that the seminar was well received," William H. Bailey of Technical and Trades Training Division 3131 said. "Teacher interest was very much apparent and there were many questions. Several teachers commented on the excellence of the speakers and the significance of the scientific information."

While at the schools, other Sandians were "keeping on their toes answering questions," as Mary G. Mayes (5314) said. "These students were bright," she said. "They were extremely well read and very informed. The academic level is high." Mrs. Mayes taught five

chemistry classes at Manzano High School.

Albert Goodman (1124) agreed. Al taught five physics classes at Sandia High School. "Speaking of the 180 students I had in my classes, I would say that all had a good grasp of the subject matter. Some were outstanding in physics," he said. "They asked very probing questions."

Robert G. Elsbrock (3211) was enthusiastic about the science students at Pius X High School. "We found a tremendous interest in nuclear physics and a curiosity about Sandia Laboratory," Bob said. "George Harwood (3311) and I looked at some student projects and were truly impressed with the scientific effort and emphasis demonstrated at this school."

Arrangements for the science seminar were made by Mr. Bailey. Frank P. Hudson (5150) was the program chairman. This seminar was the first in a series planned by Division 3131 and the Albuquerque high schools.

Purpose of the seminar was to acquaint the teachers with industrial and research applications of the subject matter being taught in the schools.

provide consultation on selection and specification of materials and processes. In addition, our work includes chemical analysis and materials properties determinations."

In order to perform their mission, members of Organization 1100 concern themselves with physical and chemical properties of metals, plastics, natural and synthetic fibers, ceramics, and composite material products in a wide variety of shapes and sizes.

Before a material is recommended for use, it is subjected to many tests in order that its potentialities may be fully studied and its limitations completely understood. Properties of interest include hardness, strength, ductility, thermal expansion, electrical resistance, dielectric strength, tear resistance, low-temperature flexibility, resistance to elevated temperature, corrosion resistance, weldability, ozone resistance, and dimensional stability.

Frequently these properties are

G. C. Dacey to Speak To NATO Scientists

George C. Dacey, Vice President, Research, will address a meeting of top defense research scientists of the NATO countries next week.

He will speak at a conference on "Technical and Military Applica-



George C. Dacey

tions of Laser Techniques" at the SHAPE Air Defense Technical Centre, The Hague, Netherlands. The conference will be held Apr. 3-5.

Topic of Mr. Dacey's talk will be "Use of Lasers in Communication and Reconnaissance." A Laser is a device (sometimes called Maser) developed at Bell Telephone Laboratories, Murray Hill, N. J., while Mr. Dacey was Director of Solid-state Electronics Research. Laser is an acronym for light amplification by the stimulated emission of radiation.

Six scientists from each of the 15 North Atlantic Treaty Organization countries will attend the three-day conference.

R. W. Russell to Speak at OSU

Environmental testing of relays at Sandia Corporation will be discussed by R. W. Russell (7321-4) before the 10th Annual Conference on Electro-Magnetic Relays to be held at Oklahoma State University, Apr. 24-26.

related in such a fashion that a combination of effects is important. For example, the material may be subjected to tensile tests while at red heat. Personnel of Organization 1100 scrutinize the material with the aid of an assortment of instruments which enable them to evaluate its behavior.

Two Departments

Two Materials and Process Departments, 1110 and 1120, comprise Organization 1100. Department 1110, managed by R. R. Sowell, develops organic resins, plastics, elastomers, adhesives, and foams.

Polymer Chemistry and Encapsulation Division 1111, supervised by N. J. Eich, develops potting resin systems and processes and applies them to protecting components from environmental extremes. Practically all the resins used in Sandia applications have been developed at Sandia as the usual commercial resins do not fit our applications.

One example may be of interest. In the past, resins were filled to



MATERIALS & PROCESS DEVELOPMENT—This issue of the Sandia Lab News contains the story of Organization 1100. Symbolic of 1100 work, Technical Staff Member Harry R. Holmes inspects material to be metal coated in a vacuum metalizer. The story of Organization 1100 starts at the bottom of this page.

L. B. Smith to Serve on Committee Advising on Space Science Matters

Lawrence B. Smith of Aerospace Physics Division 5114 has been invited to serve on the Committee

on Upper Atmosphere Rocket Research, a function of the Space Science Board of the National Academy of Sciences.

Army R & D Proceedings Prints Paper Written By Sandia Scientist

A technical paper by R. R. Prairie (1442-1) will appear in the Proceedings of the Seventh Annual Conference on the Design of Experiments in Army Research, Development, and Testing.

The paper, "Some Results Concerning the Reduction of Product Variability Through the Use of Variance Components," was written by Mr. Prairie for his doctorate thesis at North Carolina State College and was presented at the conference last October. He has been with Sandia Corporation since last January.

The Space Science Board and its committees advise the various U.S. agencies on matters pertaining to space science, conduct of many parts of the space research program, and the implications of space activities. The Board also officially represents the U. S. in coordinating the U. S. space program with those in other countries.

The 10-man Upper Atmosphere Rocket Research Committee has as its main purposes: to guide and encourage development of continually improving capabilities to probe the atmosphere on a coordinated or synoptic basis, and to further expansion of the present meteorological rocket network, both in global coverage and altitude capability.

Diversity Is Keynote of Materials and Process Development 1100

With this issue, the SANDIA LAB NEWS begins the first of a series of articles on the work of general organizations within Sandia Corporation. The articles, which will appear over a period of more than a year, will explain in as non-technical language as possible, what makes Sandia tick.

This first article discusses the organization headed by Charles F. Bild, Director of Materials and Process Development.

"Our activities are indicated by the title of our organization," C. F. Bild, Director of Sandia Laboratory's Materials and Process Development Organization 1100, commented recently. "But the work in 1100 is actually much more diverse than the title implies."

The mission of Organization 1100 involves support of other Sandia organizations through research, development and evaluation of new materials and processes, and application of existing technology. "The task involves basic study of material behavior and development of new and improved materials and processes," Mr. Bild continued. "Also, we assist other Sandia Lab organizations with specific application studies and trouble-shooting, and

improve their physical characteristics, as the unfilled resins could not withstand temperature extremes. A demand arose for a clear resin which would permit inspection of the components after potting. A resin system meeting the requirements was developed which now has wide usage.

Structural Plastics and Explosives Division 1112, supervised by E. R. Frye, investigates and develops reinforced plastics, laminates, rubber, adhesives, explosives, foams, and cushioning materials.

"We use additives to give plastics strength," Mr. Frye commented. "We add glass fibers or chopped fabrics to plastic stock, melt and compress the mixture, and mold it in a variety of shapes." To mold plastics, 12-, 30-, 50-, and 100-ton hydraulic presses are used. Molded reinforced plastics are often stronger and more resistant to environmental effects than components made of metal of comparable weight and thickness.

"For other applications, we lam-

inate pieces of glass or plastic fiber cloth, and impregnate the laminated pieces with plastic. In some cases, we wind glass fibers around a mandrel and impregnate the windings with resin. Such filament-wound components possess properties superior to conventional laminates," Mr. Frye continued.

Some organic materials, like those found in a natural environment, are susceptible to deterioration by fungi and similar agents. Most synthetics are non-nutrient, however, and every effort is made to eliminate those few that might degrade under humid conditions. The mycology laboratory has on hand about ten different cultures to simulate the conditions that weapons might encounter in the field.

Division 1112 also develops new adhesives for bonding many seemingly incompatible materials. Some of the adhesives are soft and pliable. Others are ceramic materials. Many are stronger than

(Continued on Page Three)

Editorial Comment

What's New?

The story of what's going on in the business and industrial world today contains many highlights and sidelights and brings out some history that is not too well known. Here's some miscellaneous intelligence coming from a few of the nation's business and industrial establishments.

The amount of cement used in construction of the Niagara Power Project would make a 24-ft. highway from New York City to Jacksonville, Fla. In the past 10 years, more than a quarter of a million men have left the coal mining industry. Yet through mechanization the output of those who have remained has doubled. The United States leads the world in newsprint consumption, taking at least half the world's supply.

Door-to-door selling annually accounts for \$2½ billion in this country. The yo-yo is a toy with a past. It was patented by a Newark, N. J., firm in 1867 as the "return wheel." It didn't sell and was discontinued. There is a \$3 million mountain of onyx at Meramec Caverns, Stanton, Mo.

Between 1950 and 1960, Americans increased their life insurance ownership 150 per cent. The public spent \$5.9 billion for automobile insurance in 1960. More than \$4.6 million has been appropriated for cancer research by the Tobacco Industry Research Committee.

The American businessman also displayed a light side as he marketed his product. He designated April as "Ladder Month." He also set aside in April a "Laugh Week," and "Honey for Breakfast Week." Then, some American, and he may well be a businessman, showed himself to be of good will and has earmarked Sunday, April 29 as "Mother-in-Law Day."

It all goes to indicate that though foreign competition, taxes, and inflation get the headlines, business goes on more or less as usual.

Venturesome Souls to Seek Out White Water for Outdoor Sport

If names mean anything, the recently-organized Albuquerque White Water Club "Ratas del Rio" (Spanish for "river rats") will probably attract strictly the members it is seeking—persons interested in floating downstream on kayaks, boats, or rafts.

A meeting is scheduled for tonight at 8 p.m. at the Heights YMCA (4901 Indian School Rd. NE), which will feature movies and plans for future trips. Prospective members, as well as interested persons, are invited to attend. J. H. Fretwell of LASL will show two 16mm color films: one is a half-hour film of boating down the San Juan and Colorado Rivers with many shots of side canyons below Rainbow Bridge which will be flooded by the Glen Canyon dam by the summer of 1963. The second shorter film was taken along the Yampa and Green Rivers through Dinosaur National

Monument.

A schedule of trips planned will be presented and arrangements will be made for a training course, if there is sufficient demand. Such a pilot course would include instruction in fundamental water techniques at a local swimming pool, actual boat-handling training on a calmer stretch of the Rio Grande, and finally a trip down the river geared to the beginner's ability.

Ownership of a boat or raft, or access to one, is not a prerequisite for club membership.

A steering committee has been established for the club. Members include: G. A. Fowler (7000), mapping chairman and treasurer; Jim Brathovde (5151), meeting chairman; H. H. Patterson (7160), safety and rescue chairman; George Steck (5425), trip planning chairman; and Earl Oliver (UNM), training chairman.

Sanado Club to Present Hour-Long Musical Comedy at Buffet-Dance

Two buffet-dances will be held at the Coronado Club in April, and each will feature foreign foods and special entertainment.

At the buffet-dance on Saturday, Apr. 7, the Sanado Club will present "La Belle Clarabelle," an hour-long musical comedy set in Paris. The buffet (6-8 p.m.) will offer French foods, and the "Lads of Knots," a nine-piece band, will provide the music for dancing from 9 to 1. Social hour prices will prevail from 6 to 8, and admis-

sion prices are \$2.60 per member and \$3.60 per guest.

The other buffet-dance will be the Fiesta Mexicana on Apr. 21.

Tomorrow night square dancers will fill the Club's ballroom. Guest caller H. Newsom from El Paso will lead the dancers from 7:30 to 11. Prices per couple are \$1 for members, \$2 for guests.

Social Hour tonight will feature the Four Brothers, and next week Don Lesman's 10-piece band will play for Social Hour dancing.



FEATURED in Sanado Club musical comedy, "La Belle Clarabelle," to be presented at Coronado Club Saturday, Apr. 7, are (l to r) Mrs. Dick Strome, Bill Puder (2631), Mrs. Jim Karo, and Mrs. Jim Ayers. Evening will include French menu and dancing.

Jim Hesse Paints Abstracts Full of Color But He Insists That They Have Meaning

James E. Hesse is a quiet man who paints loud pictures.

Sandians passing Rm. 148 in Bldg. 802 last week noticed Jim assembling his gallery of modern art in preparation for moving to new quarters in Bldg. 824. The colorful abstract paintings have been decorating his office for several months. Jim does chemical research and crystallography projects for Applied Research Division 5132.

He has been painting for about three years now. He started by taking an art course at Western Reserve University in Cleveland, O., an afterthought while enrolling for an advanced chemistry course.

"It was a conventional art course," Jim says, "and we learned to draw realistically. I followed this with a course in painting and experimented with pastels, watercolors, and finally oils. I began to move away from realism into abstract symbolism."

Here is where Jim differs with most modern abstract painters. True, his paintings are non-realistic and definitely abstract, but the symbols do have meaning and are recognizable.

For example, one of his paintings depicts the theme of the modern opera, "Anaira." A rocket ship with its fire-trail across space dominates the painting. An exploding earth is visible along with the red planet Mars. Several geometric dancing figures are woven into the composition.

"The idea," Jim says, "is that these people have left a radioactive earth to escape to Mars but their rocket ship is out of control. They will drift in space forever. It's kind of morbid but was a lot of fun to paint. I also paint happier subjects such as birds and seascapes."

Jim paints for fun but he works hard at it. He spends an average of 30 hours on one of his abstractions but might make a dozen sketches of an idea before applying paint to the canvas.

"I strive for something visually interesting, even three dimensional effects," Jim says, "but with idea content. I think that abstract art should have meaning behind it. It shouldn't just be a splattering of colors."

Jim's work reflects his purpose. The bright colors are usually contained in geometric shapes that have shading of form — they recede and advance in the painting with lines of action and movement.

"Anyway, they liven the surroundings," Jim says. "I think they will fit into our new research lab rather nicely."

Congratulations

Born to:

Mr. and Mrs. James A. Leonard (7147-2) a son, William Joseph, on Mar. 22. June is on leave from the Lab News.

Mr. and Mrs. William E. Seaburn (4254) a son, Mark Edward, on Mar. 19. Joy is on leave from 4110.

Mr. and Mrs. Paul J. Sikkel (4511) a son, Paul Carl, on Feb. 17.

Sympathy

To R. I. Elledge (2631) for the death of his mother in Albuquerque Mar. 17.

To Mary Ann Pino (3153), Antonio J. Pino (4575), and Arthur Pino (2643) for the death of their mother and grandmother in Mexico City, Mar. 14.

To William R. Lincoln (4511-1) for the death of his father in Florida, Mar. 8.

To Elias Gabaldon (4575-1) for the death of his father in Los Chavez, Mar. 18.

To Antonio J. Pino (4575-2) for the death of his mother in Albuquerque Mar. 14.



ARTIST JIM HESSE (5132) poses with a part of his gallery of modern abstract paintings as he was moving it to a new location.

George F. Dickins Retires from Sandia Corporation Today

George F. Dickins will retire today after 10 years at Sandia as a staff engineer in Field Services Division 2332.



He plans to remain in Albuquerque at 5005 Mountain Rd. NE, and hopes to follow his old hobby as a stock broker and possibly teach.

A retired Naval officer, Mr. Dickins was loaned by the Navy to the U.S. State Department to serve as the American Consul General in Singapore for five years after World War I. At the time of the Japanese attack on Dec. 7, 1941, he was at Pearl Harbor on Ford Island. Later he built and commanded the first Allied Advance Naval Base at Port Moresby on New Guinea, commanded a unit at Townsville, Australia, and finally participated in the capture of Okinawa. He later was assigned as the Director of Economics for the Ryukyu Islands. His final Naval duty was in the Office of Naval Research.

In addition to his Naval education, Mr. Dickins also graduated from the engineering college at Cornell University, took post-graduate engineering at M.I.T., and worked for his master's degree in finance and economics at Princeton University.



Amy Lawrence (3126/7162)

Take a Memo, Please

Strict attention to the job at hand is a good safeguard.



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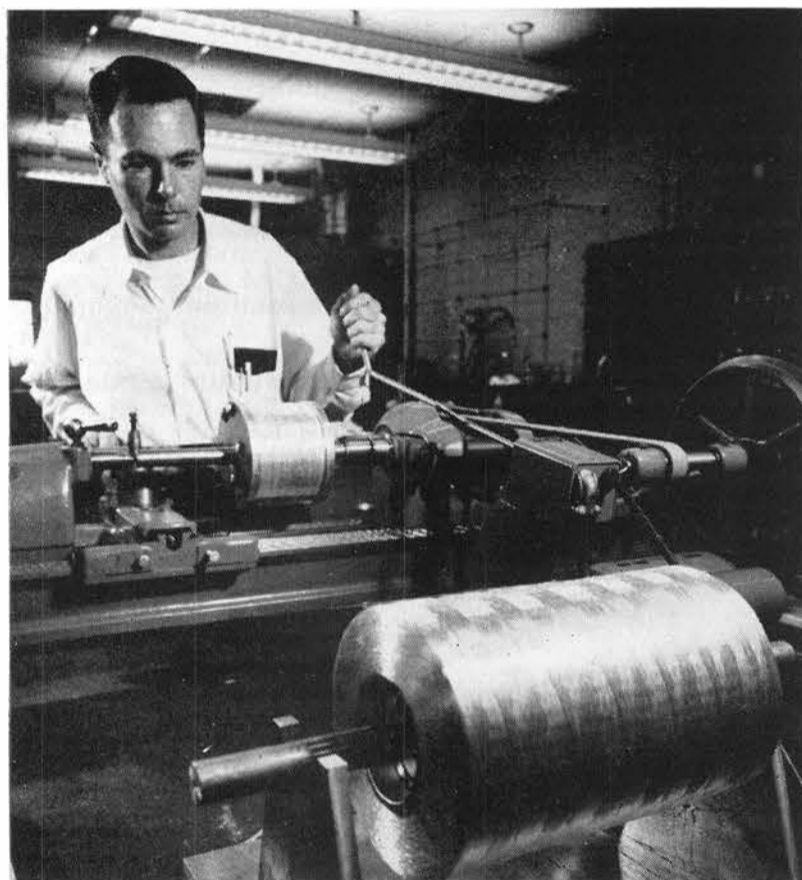
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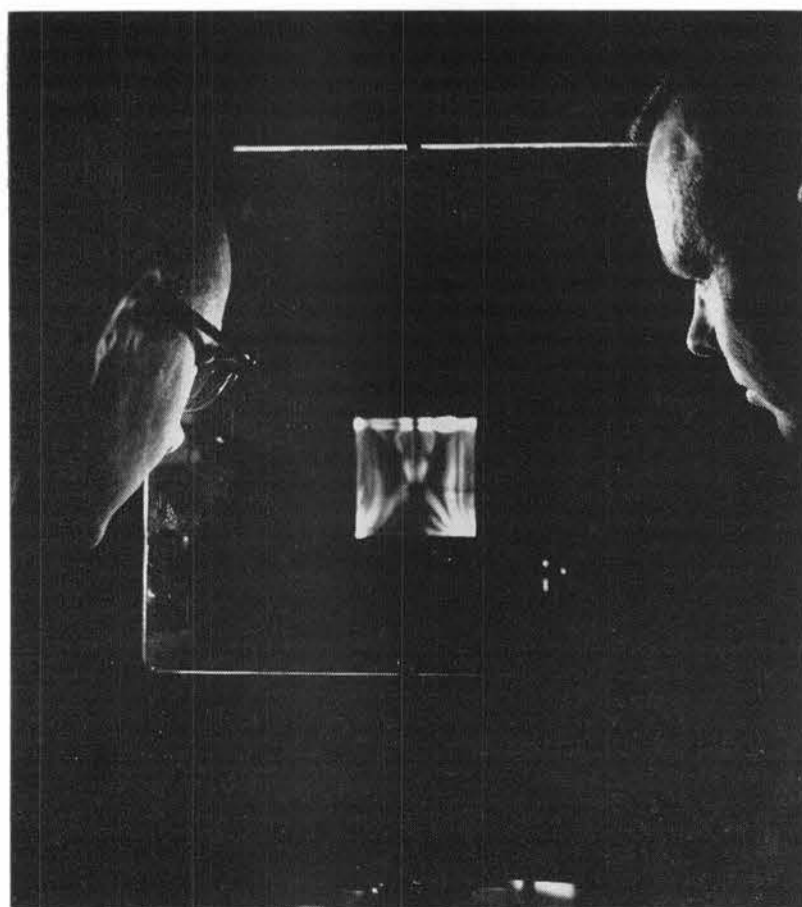
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DIRECTOR of Materials and Process Development Organization 1100, C. F. Bild, holds an experimental shape. In tailoring a material to a specific application, personnel of Organization 1100 submit it to a series of exhaustive tests and analyses.



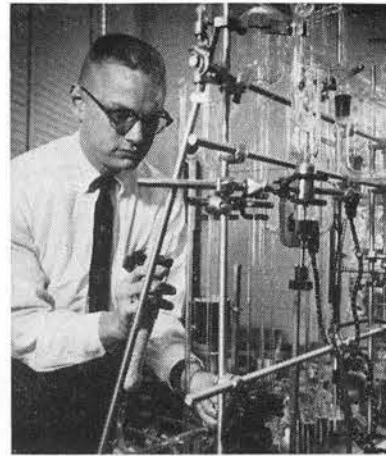
FILAMENT of Fiberglas, being wound on mandrel from spool in foreground, is inspected by Harold McKay (1112-1). Procedure is part of tensile test of the filament, which is used in producing filament-wound plastic laminates in a wide variety of shapes.



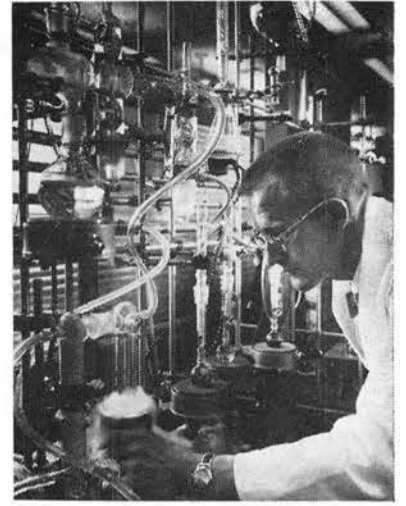
STRESS pattern in block of potting resin, caused by passage of electric current through block, is examined under polarized light by Osborne Milton, left, and John Lovelace (both 1113-2).



HOT spray of ceramic material is prepared for application to nose cone by Vernon Arnold (1124-1) in coating and surface chemistry lab. Headset shuts out excessive noise of operation.



GAS vacuum analysis in analytical chemistry laboratory is adjusted by David M. Davis (1122-1). Analytical lab uses a variety of traditional and unusual techniques for analysis of materials which hold great interest to Organization 1100.



COLD trap on extraction apparatus in analytical chemistry lab is adjusted by Frank Conrad (1122-1). Lab is equipped to use a variety of analytical techniques.

Continued from Page One

Materials and Process Development

the materials they hold together, and some contain powdered-metal additives which make them electrical conductors.

Physical properties of materials are investigated by Physical Properties Division 1113, supervised by C. D. Lundergan. "We study basic phenomena in the behavior of materials under repeated electrical stresses, thermal stresses, and dynamic loads, and we develop new techniques for measuring properties of materials. In addition, we provide mechanical, thermal, and electrical testing services for Organization 1100, and for other Sandia Lab organizations having need for them," Mr. Lundergan said.

Potting resins are normally very good electric insulators. "But high voltages will break down the resin and will form conductive paths through it. Presently, we're investigating basic phenomena connected with production of these conductive paths," Mr. Lundergan added.

"We can submit a material to practically any kind of physical test," Mr. Lundergan continued. "We may test fatigue characteristics of a plastic by mechanically flexing it thousands of times. Or we may expose it to atmospheric changes to see how it weathers them. In some cases, we may combine techniques, testing the brittleness of a rubber sample in a cold chamber.

"While we're basically concerned with development and application of inorganic materials, we work hand-in-hand with the organic materials people in solving materials problems," W. M. O'Neill, manager of Materials and Process Department 1120, commented. "We investigate properties and applications of various metals and ceramics, and we have one group—Materials and Analysis Division 1112—whose basic concern is materials analysis."

Property Studies

Metallurgy Division 1121, supervised by J. C. Russell, studies the properties of numerous common and rare metals and alloys, develops methods for fabrication, and assists design engineers in selection and specifications for metals of specific requirements. "We use standard metallurgical techniques to study metals and to find new applications for them," Mr. Russell commented recently. "And we've developed several specialized methods."

Section 1121-1 is studying techniques for vacuum deposition of metal. Metal is vapor-deposited on glass microscope slides in high-vacuum chambers. Of primary concern are processes for cleaning substrates and controlling adhesion.

Dynamic properties of materials have become increasingly important to Organization 1100. In one dynamic-properties program, a metal tube containing explosive is supported at the center of a number of grids made of tiny wire, which radiate from the surface of the tube.

The grids, wired to fast-trace oscilloscopes, are broken down by the expanding surface of the exploding tube. The device enables researchers to study behavior of materials that have been explosively loaded.

A service to design personnel is provided by Process Development Section 1121-2, supervised by K. E. Mead. The section perfects techniques for joining and processing metals.

"We use electron-beam welding, ultrasonic welding, and standard welding techniques to join a variety of substances, including some 'incompatible' combinations as aluminum and copper, stainless steel and aluminum, or copper and glass. We are also interested in the application of the plasma jet to specialized coating and fabrication processes," Mr. Mead said.

Problems Presented

Each combination presents problems which the welder must overcome to produce a strong bond. "Each technique enables us to cope with a particular problem," Mr. Mead continued. "For example, ultrasonic welding does not produce heat in the conventional sense. When foils are welded, heat can be a problem which ultrasonic welding enables us to by-pass."

Section 1121-2 uses other apparatus for brazing, soldering, heat treating, and foundry work. Carbon-arc and vacuum furnaces facilitate production of samples of special alloys.

Materials Analysis Division, 1122, supervised by R. E. Fisher, uses conventional analytical techniques as well as newly-developed methods for the analysis of materials. "The division labs analyze a variety of materials and compounds using standard analytical methods," Mr. Fisher said. "Instrumental techniques are very important in handling the volume and complexity of samples we receive."

It was noticed that micro-combustion trains, vacuum-fusion equipment, gas chromatography, mass spectrometers, infrared spectrophotometers, ultra-violet spectrophotometers, and an array of glassware are used in the chemistry lab to determine the composition and structure of materials.

The electron microscope plays an important role in the study of material surfaces and interfaces at high magnification. The emission spectrographs permit the spectrochemical analysis of most elements down to parts per million in various materials. This is accomplished by measuring the intensities of certain spectral lines preferred to standard materials.

The X-ray diffractometer provides a technique for determining compounds. Each chemical compound diffracts an X-ray beam into a pattern characteristic for only that material.

Electron Microprobe

The electron microprobe is being added to the division's research and analytical capabilities. Non-destructive studies into the composition and structure of micro-quantities of materials will be

possible.

Surface Chemistry and Ceramics Division 1124, supervised by C. W. Jennings, investigates and develops ferroelectric materials, ceramic coatings and components, special lubricants, thin films, synthetically-grown crystals, cleaning processes, and electrodeposited coatings.

"Ferroelectric materials, when compressed, produce short-duration electrical pulses," Mr. Jennings explained. "Barium titanate, a ferroelectric compound, is mixed with other materials, formed into a 'green' ceramic pellet, and fired. The pellet is then polarized by application of an electrical voltage at a slightly elevated temperature. The ceramic is then capable of emitting a short burst of electrical energy when mechanically deformed."

The ceramics laboratory also produces other ceramic parts and studies processes for the application of sprayed ceramic coatings.

The crystal laboratory in Division 1124 produces single crystals of individual elements and of compounds. Research projects on the nature of crystal growth and the unusual properties of single crystals are under way, as are studies of crystal structures.

One special technique used in the crystal lab is zone refining of metals, a process which produces extremely pure metal samples. "A metal sample rod is supported in the refining device," Mr. Jennings explained. "Then a heater, capable of heating a small section of the rod to a very high temperature, is fitted to one end of the rod." The heater—in effect, a small circular furnace—moves down the rod, heating a moving zone of metal. Impurities are pushed ahead of the moving zone, and the metal is purified.

Cleaning Processes

"We're also developing methods to improve cleaning processes for electrical contacts," Mr. Jennings continued. "Contaminants have a nasty habit of congregating on electrical contacts, and we're constantly on the lookout for ways to prevent such contamination."

While the operation of the Materials and Process Development Organization 1100 is diverse, many of the activities are inter-related.

"There are many different projects underway, but each member of the organization strives to keep abreast of what the other members are doing," Mr. Bild, Director of Organization 1100, concluded. "This is extremely important, for one can often contribute much to the other. An excellent illustration is the present work on dielectric strength of casting resins.

"The electrical engineer in the 1113 properties group, in trying to achieve a better understanding of the phenomenon of electrical breakdown, works hand-in-hand with the organic chemist in the resin group of 1111 who is working to formulate resins with improved properties."

Sheet Metal Section History Dates Back to Days in 1947

"We started precision sheet metal operations in 1947," B. C. Brown, supervisor of Sheet Metal Section 4224-2, recalled recently. "And we like to think that the 15 years since then have been years of growth and progress."

Personnel in the sheet metal shop by the end of 1947 included Mr. Brown, Ray L. Bishop (4224-3), and Daniel H. Juckett (4211-2). The shop was an outgrowth of the Z-7 machine shop organization in the days when Sandia Laboratory was a part of the Los Alamos Scientific Laboratory.

In 1947, sheet-metal operations were carried on in the old machine shop's office space in a building located where Bldg. 840 stands today. "We soon outgrew our quarters and in 1949 our shop was moved to Bldg. 856," Mr. Brown said. "Here, we shared the building with the machine shop and heat-treating section."

The sheet metal shop's growth continued to present a space problem. New equipment was acquired as it was needed. "And with the new equipment came a need for more manpower," Mr. Brown explained.

Model Development

In 1951, Bldg. 855 became the new model-and-development sheet-metal shop. "We grew as the Laboratory grew," Mr. Brown recalled. "Demands for sheet-metal prototypes and model work increased." Through the next 10 years, many of these sheet-metal parts were used in the final design of weapons and components. "Our expansion continued. We shared one end of Bldg. 855 with the foundry. When Bldg. 840 was completed, the foundry moved out, and the sheet metal shop expanded again."

In the late 1950's plans were made to locate the shop in a new building—841. The building was completed in the summer of 1960. "We were proud of the new building," Mr. Brown said, "but we left a lot of memories behind in Bldg. 855."

In recent years, the sheet metal shop has become concerned with the fabrication of non-weaponry components. "These applications range in size from test-tube racks to room-size explosive chambers," Mr. Brown continued. "Work in

this area is becoming an increasingly-large part of our operation."

The sheet metal shop continues to work closely with other Sandia Lab organizations in assisting in the design, development, and fabrication of sheet metal components. Some of the shop's larger fabrications have included antenna and camera assemblies, telemetering components, and centrifuge structures.

"Many projects are fabricated in conjunction with the other specialty shops in Organization 4200," Mr. Brown continued, "and some of our work concerns joint assemblies of sheet metal and machined components."

The shop works with a wide variety of metals, including aluminum, mild steel, gold, platinum, and titanium. Several forms of metal stock are used. In addition to sheet stock of various thicknesses, metal tubing, angle stock and bar stock are used in fabrications.

Sandia Laboratory Sheet Metal Section 4224-3 now employs 16 men who use both standard and specialized techniques for precision sheet-metal working.

Personnel use both manual and power-operated machines to form, press, shear, bend, roll, and join the metals with which they work. "The men have an average of about 15 years experience in metal work, and an average of 10 years with Sandia Lab," Mr. Brown said.

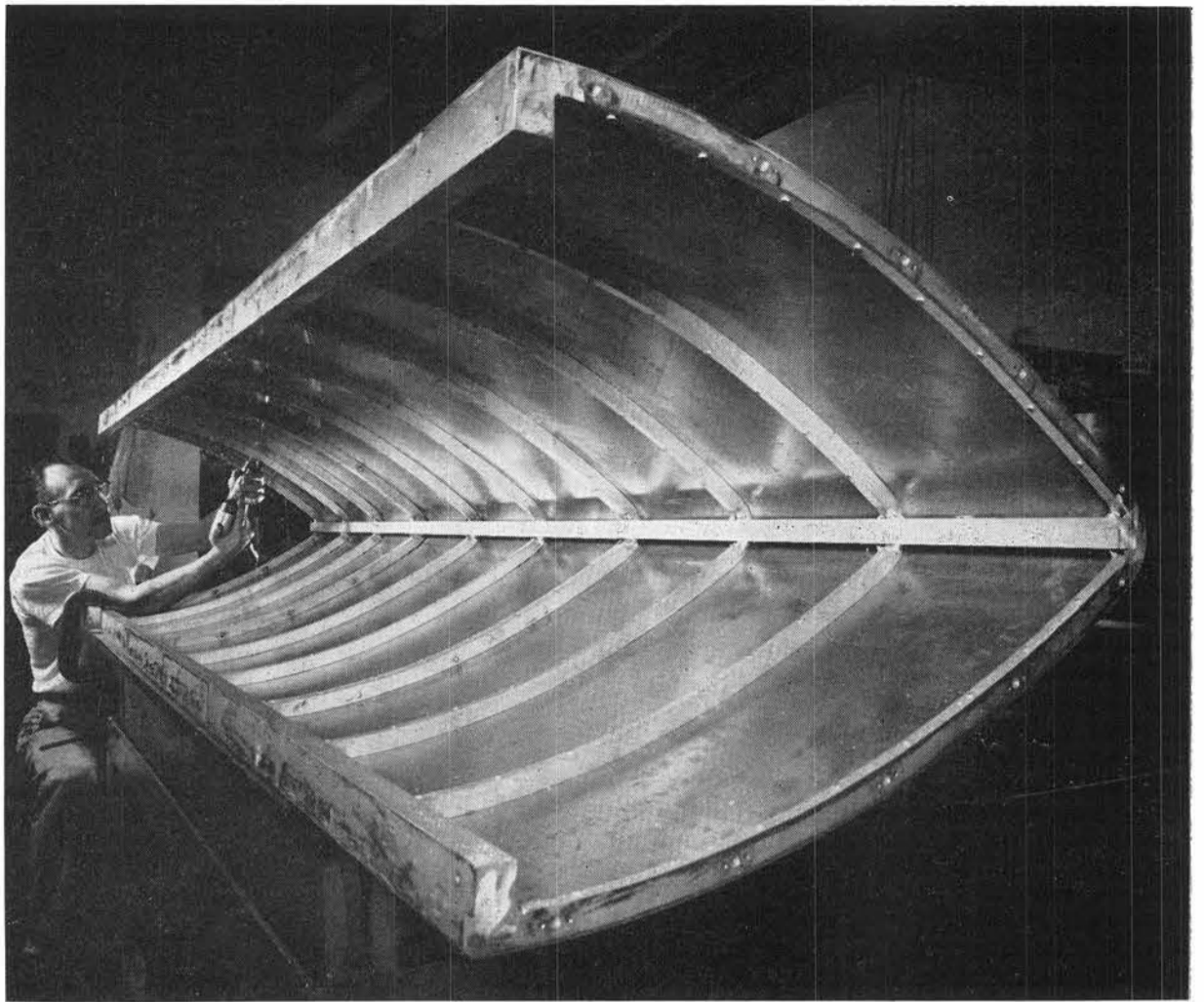
The men of Sandia's sheet metal shop take pride in their work, which they perform with the skill of experienced craftsmen.

"We continually strive for better ways to do our job and to keep pace with the rapid growth in technology," Mr. Brown concluded.

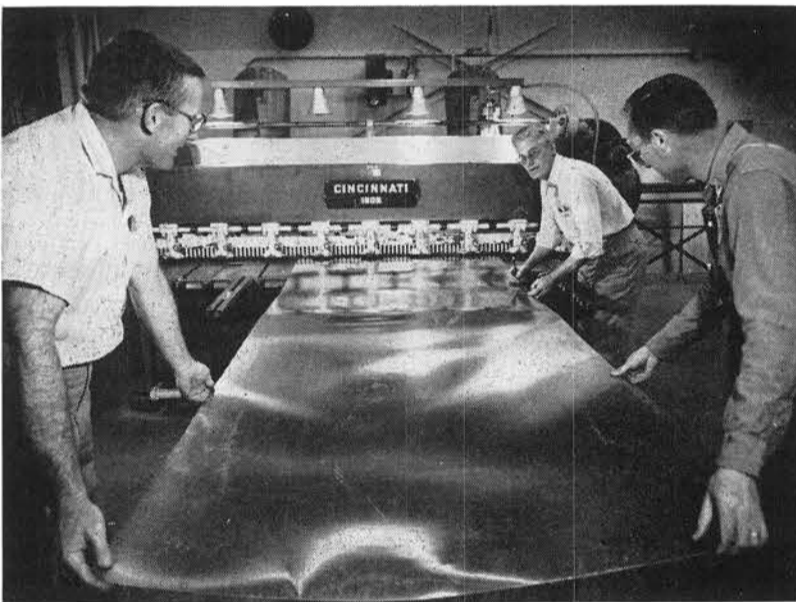
Livermore Laboratory

Anything from air conditioning ducts to prototype weapon components is fabricated in the sheet metal shop at Livermore Laboratory. The shop is part of the Support Shop Section 8223-2, headed by J. F. Bryson, supervisor of the Model Shop and Inspection Division.

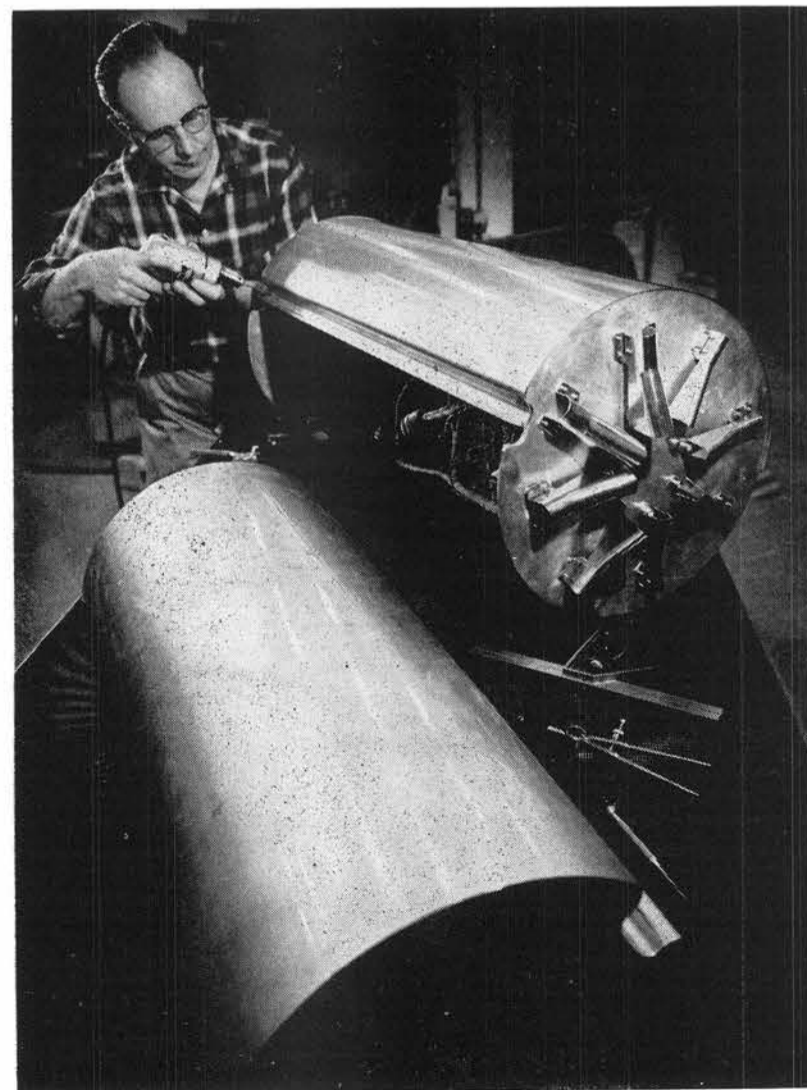
The Livermore Laboratory sheet metal shop supports both maintenance and engineering groups at Livermore. The work of this organization will be covered in a future issue of the Sandia Lab News.



SECTION of fairing for centrifuge is given final shop employees work with a variety of com- touches by Wilson Pleger (4224-3). Sheet metal mon and rare metals in many shapes and forms.



SHEET of cold-rolled steel is prepared for cutting in power shear by (l to r) Glen Haines, Ray Bishop, Carl Kochmann (all 4224-3).



STAINLESS steel "skin" on telemetering equipment container is drilled by Nick Kasnic (4224-3) in sheet metal shop. Second section, pictured in the foreground, will provide cover for container.

WE-AT&T Subsidiary Established to Support Manned Space Flight

Establishment of a subsidiary corporation to provide systems planning support for the nation's Manned Space Flight Program was announced by AT&T.

Formed in response to a request of the National Aeronautics and Space Administration for Bell System assistance in the space effort, the new corporation—named Bellcomm, Inc.—will be jointly owned by the AT&T and Western Electric companies. Its headquarters will be in Washington.

The new company will work with the Office of Systems in NASA's Office of Manned Space Flight. Projects for which it will provide systems planning support include the Gemini Program to earth-orbit a two-man spacecraft and the Apollo program to land three-man teams on the moon and return them safely, in addition to planning missions beyond the first lunar landing.

President and chief executive officer of the new organization will be John A. Hornbeck, now Executive Director, Semiconductor Device and Electron Tube Division, Bell Laboratories. Vice President and General Manager will be W. J. Whittaker, currently Assistant Vice President, Personnel and General Service, AT&T Long Lines Department. Mr. Hornbeck and Mr. Whittaker also will be members of the board of the new company.

Heading major technical divisions of the new company will be Julian M. West, now Executive

Director of the Military Systems Division of Bell Laboratories, and W. Deming Lewis, now Executive Director of the Research-Communications Systems Division at the Laboratories. Hendrik W. Bode, Vice President, Military Development and Systems Engineering of Bell Laboratories, will serve as a special adviser to the new company and will be a member of its board.

Other board members will be R. R. Hough, AT&T Vice President in Charge of Engineering, and formerly a Bell Laboratories vice president; K. G. McKay, Vice President, Bell Laboratories; L. R. Cook, Engineer of Manufacture, Western Electric; H. G. Mehlhouse, Vice President, Western Electric (formerly with Sandia Corporation); J. A. Farmer, AT&T General Attorney; and J. H. Felker, AT&T Assistant Chief Engineer. Mr. Hough will act as Chairman of the Board of the new company.

In a letter to Frederick R. Kappel, AT&T Board Chairman and Chief Executive Officer, NASA administrator James E. Webb said, "It would be a public service of the very first order of importance if the Bell System would undertake to assist NASA . . . by providing an organization of experienced men capable of giving the responsible NASA officials the benefit of the most advanced analytical procedures to develop the factual basis they need to make the wide range of system engineering divisions required for the successful execution of the Manned Space Flight mission."

Hup Wallis Heads Tennis Association

The first meeting of the Sandia Laboratory Tennis Association was held in Bldg. 610 on Mar. 20. Hup Wallis (2331) was elected chairman of the Association and Charlie Chavez (2642) was elected co-chairman.

Singles and doubles tournaments will be held on Apr. 28-29 and May 5-6 at the Beverly Park Courts. All persons wishing to play in the tournament should inform O. J. Foster or Seyfred Toledo at Services and Recreation Section 3122, ext. 29157, not later than Apr. 25.

Trophies Awarded To Bowling Winners

George Roth, manager of Quality Engineering Department 7520, recently presented trophies to winners of the Dept. 7520 Bowling Tournament, held Mar. 3 at the Coronado Club Lanes.

Carl Frantz (7521-1) took top honors with a 569 scratch series. Frank Macek (7521-2) received a trophy for his high handicap score of 645. Ron Bump (7523-2) and Dale Pipher (7521-1) tied for second-high scratch honors with a series total of 533. High handicap runner-up was Dan Padilla (7523-3) with a 612 total.

E. S. Roth Speaks on Design and Inspection At U of Colorado

"The Design and Inspection Factors that Affect Sensible Manufacturing" was the title of a technical paper presented by E. S. Roth (2564) before the American Society for Tool and Manufacturing Engineering Conference at the University of Colorado earlier this month.

Mr. Roth also presented a paper at a meeting at Sheffield Corp., in Dayton, O., Mar. 12-13 which was entitled "Conversion of the Sheffield Ferranti F-22 Coordinate Measuring Machine into a Functional Gauge."

W. D. Weart Reads Paper At Meeting of Two Tech Societies

"Particle Motion Near a Nuclear Detonation in Halite" is the title of a paper to be presented by W. D. Weart (5112) before two technical societies next month.

The Seismological Society of America meeting is scheduled for Apr. 16-18 in Los Angeles, and the American Geophysical Union will meet Apr. 25-28 in Washington, D. C.



OUTSTANDING students from Maxwell High School, Maxwell, N. Mex., listen to comments by D. K. Robbins (3454) about 7090 computer during three-day visit to Sandia Lab. Eleven students and three adults attended the sessions, which began Thursday, Mar. 22 with a lecture on data program-

ming by Mr. Robbins. After visiting the 7090 computer on Thursday, Mar. 22, the group returned on Friday, Mar. 23, for further instruction at the computer. On Saturday, Mar. 24, the students and teachers completed their visit with a tour of the Sphere of Science and viewed "The Sandia Story."

Albuquerque Apr. 3 City Commission Race Has Five Candidates From Sandia on Ballot

Sandians will find some familiar names on the ballot when they go to the polls Apr. 3 to elect three members to the City Commission and two municipal judges. Of the 19 candidates who have filed for City Commission, five are employed by Sandia Corporation. (A brief biographical sketch of each

of these employees accompanies this article.)

The City Commission candidates are: William M. Anderson, Sam E. Brown, H. C. Carmody, Fred A. Chavez, Thomas J. Clear, Jr., Frank J. Crosby, Mrs. Audrey Cutting, Clarence B. Davis, Malcolm W. deVesty, Leo A. Dunn, Lawrence R. Felicetti, L. J. Heilman,

Klecan, R. P. McDonnell, Harold Shepard, Luther A. Sizemore, Orlando Ulivarri, and Archie Westfall. Mr. Davis is the only incumbent seeking re-election.

The candidates for municipal judge are: Charles W. Chavez, James Maloney, James L. Parmelee, Jr., and Harry D. Robins. Frederick C. Irion, Eugene E.

William M. Anderson, supervisor of Secondary Standards Division 2413, has been assigned to Sandia Corporation since 1950. He has headed divisions in Wage Administration, Inspection Control, and Security Standards. Before coming here Mr. Anderson had been in engineering at Western Electric's Hawthorne Station, Cicero, Ill., since 1944. He worked for more than 10 years for several engineering firms in the United States and in the British West Indies as a consulting engineer. Mr. Anderson has a BS degree in civil engineering from Northwestern University.



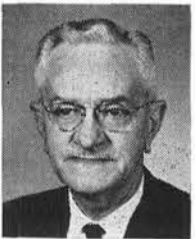
Leo A. Dunn, supervisor of Project Division 7122 in Tactical Systems Project Department, has been at Sandia Lab 14 years. He has headed a project division for the past 10 years. Previously Mr. Dunn was in charge of a bomb design section at the Navy Department Bureau of Ordnance in Washington, D.C., for 10 years. While in this position he received the Meritorious Civilian Service Award for his work in design and development of bomb clusters involving a new principle. He also worked as an air conditioning engineer in Washington for a year. Mr. Dunn received his BS degree in mechanical engineering from Catholic University of America, Washington; attended graduate school there; and studied law at Columbia University for three years.



Orlando Ulivarri, Jr., an administrative coordinator for 7300, assigned to Scheduling and Ordering Field Support Section II, 2643-2, has been with Sandia 12 years. During this period he has worked as a teller, bookkeeper, and expediter in addition to his present position. Before being employed by Sandia, Mr. Ulivarri was in the real estate insurance business in Albuquerque. He studied government at the University of New Mexico, and bookkeeping and accounting at Browning Commercial College here. During World War II, Mr. Ulivarri served with the Eighth Air Force from 1942-45 and saw combat in Europe as a tail gunner.



H. C. Carmody, supervisor of Warehouse Services Division 4612, has held this position since he was hired at Sandia Laboratory in March 1948. Immediately prior he was with the Army Corps of Engineers, assigned as Motor Transportation Officer to Sandia Base. Mr. Carmody served in the Army during World War II, and during and prior to World War I. His background includes approximately 17 years as sales manager in the Midwest for such firms as Ford Motor Co., Caterpillar Tractor Co., and Cleveland Tractor Co. For three years Mr. Carmody owned a wholesale gas and oil firm, laundry, and tourist court in Needles, Calif. He studied at De La Salle Academy and Central Business College, both in Kansas City, Mo.



L. J. Heilman, Director of Programming 2600, has been at Sandia Laboratory since 1948, when he was hired as manager of the Plant Maintenance Department. In 1951 he was promoted to Superintendent of Plant Services and later was transferred to Industrial Relations. Four years ago he was appointed Superintendent of Research and Development Staff Services, and was named Director of Information, Publications and Public Relations in January 1959. He assumed his present position in January 1960. Mr. Heilman served in the Army Corps of Engineers from 1943-48 and was Base Engineer for Sandia Base at the time he was discharged. He received a BS degree in civil engineering from the University of Missouri.



No job is so important and no service is so urgent that we cannot take time to perform our work safely.

Two Evening Physics Courses Planned for Future at University

An evening course at the University of New Mexico, designated as Physics 60, is tentatively planned to be offered after 6 p.m. during Spring semester, 1963. During Fall semester, 1963, Section 3131-2 plans to survey the number of Sandia employees who wish to take the course under the Sandia Corporation Educational Aids Program.

Tentative plans are also being made for an evening course, designated Physics 61, to be offered during the Fall semester, 1963, and for another course, Physics 62, to be offered in the Spring of 1964.

University Education and Liaison Section 3131-2 has announced that copies of the Summer schedule for the University of New Mexico, and for St. Joseph College are available at all Sandia Lab technical libraries, and at the Section 3131-2 office in Bldg. 301.

A. T. Fromhold Will Present Two Papers For Physical Society

A. T. Fromhold, Jr. (5151) is currently presenting technical papers before two American Physical Society meetings.

"Optical Study of the Connectivity of the Fermi Surface of Silver" was given at the regular March meeting of the APS in Baltimore, Md. (Mar. 26-29).

Mr. Fromhold will present his paper, "Kinetic Theory of Thin Dielectric Film Growth," before the APS Southeastern Section in Tallahassee, Fla., Apr. 5-7.

Sandia Lab Employees Discuss Careers With High School Students

Fifteen Sandia Laboratory employees participated in the annual Career Day activities of Highland High School Mar. 21. The Sandians described their career fields and counseled with students.

The Sandians and their subjects were as follows:

Roger E. Tate (7134), Aeronautical Engineer; Raymond A. Ledogar (6030), Attorney; Arthur Troum (1112), Chemical Engineer; Bernard T. Kenna (1122), Chemist; Frank F. Norris (4541), Civil Engineer; Neith J. Pollard (1413), Electrician and Electrical Engineer.

Marcel I. Weinreich (3421), Foreign Languages; George P. Steck (5425), Mathematician; Eugene H. Copeland (7321), Mechanical Engineer; Cherry Lou Burns (3432), Newspaper Work; Winifred M. Fellows (3126), Office Work at Sandia; Glenn H. Miller (5114), Physicist; Luther W. Rook, Jr. (1443), Psychologist; Orval E. Jones (5133), Research Engineer; and William D. Burnett (3311), Biologist.

Arrangements for Sandia's participation in Career Day were handled by Robert P. Gall of Public Relations Division 3431.

UNM to Offer Two Engineering Graphics Courses if Needed

Two courses in Engineering Graphics have been tentatively scheduled for presentation by the University of New Mexico during Fall semester, 1962 and Spring semester, 1963.

The Fall course, designated CE IIL-Engineering Graphics I, will be presented as an evening course, to meet after 6 p.m. The Spring course designated CE IIL-Graphics II, is intended to follow the Fall course. The course will be offered only if participants are interested in sufficient numbers to support them.

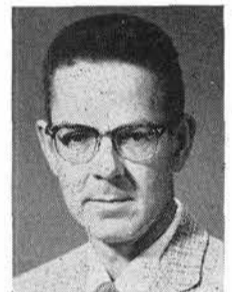
A part of the present course, CE IIL-Engineering Graphics, will be combined with the Engineering Graphics I course, with an increase in credit hours to three. The class will meet two nights each week.

Employees who are interested in registering for the evening course are requested to submit an application for educational aid (SC-4555-A 10-61) to University Education and Liaison Section 3131-2 by Apr. 6.

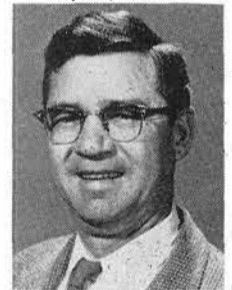
A. D. Thornbrough Speaks on Gnome To Three Groups

A talk on Project Gnome was presented by A. D. Thornbrough (7251-1) before three audiences during the past month. He appeared at St. John's Methodist Church on Mar. 6, and Valley Lions Club and Harwood Methodist Church on Mar. 21.

Service Awards 15 Year Pins



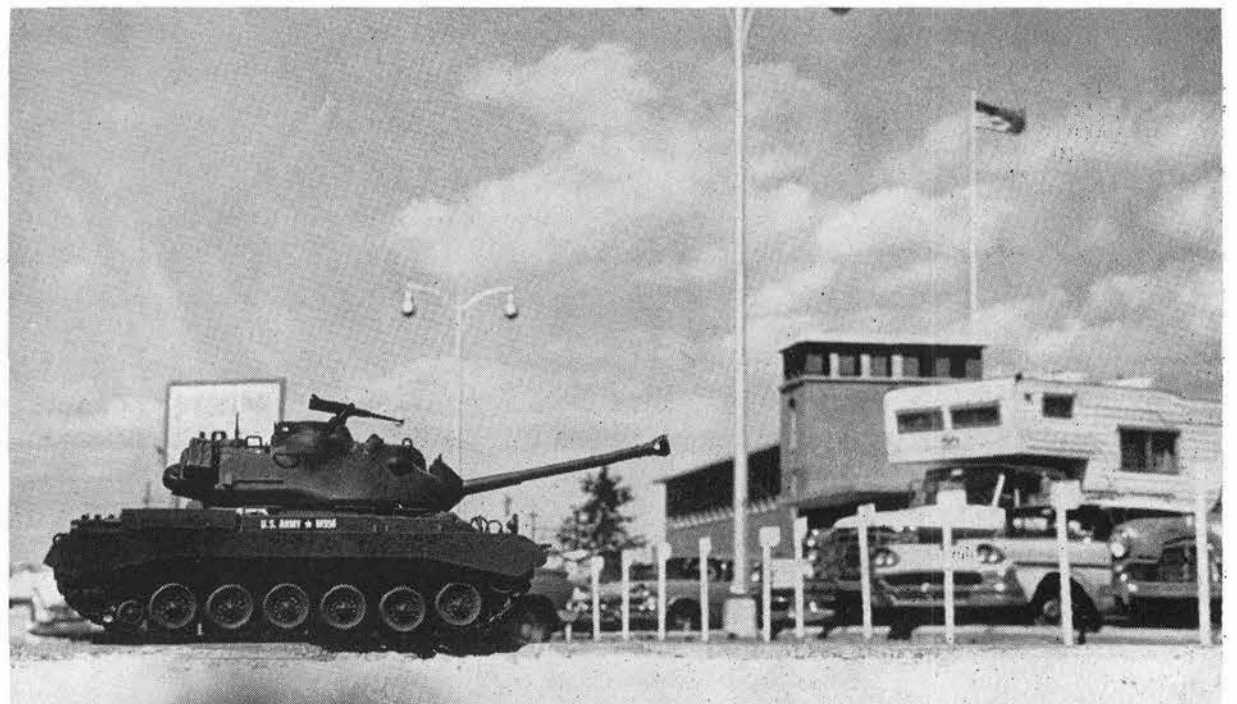
Osborne Milton 1113 Apr. 7, 1947



Lester J. Brasher 2644 Apr. 7, 1947

Ten Year Pins Apr. 1-13

T. V. Crawley, Jr., 7232, R. L. Farnham 4412, B. C. Holt 2413, F. F. McEwin 7124, J. R. Wimbrough 8161, V. G. d'Alesandro 3462, L. E. Leierer 4252, G. T. Leyba 7322, Mike Silva 4514, James Brandolino 7323, Harriet L. Evans 3423, R. S. Hooper 7321, S. A. Merriam, Jr., 2643, E. T. Torres 4623, J. H. Banker 7244, Solomon Chavez 4512, E. B. Davis 4232, E. H. Kerl 2644, Lorena C. Schneider 8212, L. E. Snodgrass 2561, Emily G. Young 5426, L. D. Blakely 2642, E. S. Acton 7536, J. H. Franklin 4513.



BANGED FENDERS, dented doors, chipped paint bothering your car in parking lots? Other than an extra measure of courtesy and caution, here's how to solve the problem—with an Army tank. Get the idea? Tomorrow's April 1. This picture made possible by use of a small plastic model of a tank.

1962 Is Busy Election Year for Voters in This Country

Supervisory Appointments

THOMAS L. PACE to supervisor of Ordnance Test Projects Division I, 7211, Development Test Department.

Tom has worked for Sandia two different periods. From 1946-51 he was a supervisor in the Field Operation Division at Salton Sea Test Base. He has been assigned to Field Testing since he returned to Sandia in 1954, and for the past three years has headed Applied Solid State Section 7223-2.

Tom received a BS degree in electrical engineering from Lamar State College of Technology, Beaumont, Tex., in 1954, and has done graduate study at the University of New Mexico.

During World War II, he served in the Navy for two years.

He is a senior member of the Institute of Radio Engineers and is currently treasurer of the Albuquerque-Los Alamos Section. Last fall he served as secretary of the National Symposium on Space Electronics and Telemetry, which was held here.

JAMES R. SHEPARD to supervisor of Traffic Section 4335-2, Administrative and Traffic Department.

Jim has worked in the Traffic Section since he came to Sandia in December 1957.

His background includes some 25 years' experience in the transportation field. For two years before joining Sandia he was with the Intermountain Traffic Bureau in Albuquerque (transportation consultants). He was traffic manager for International Milling Company in Kansas City for six years and previously held a similar position with a small-arms ammunition plant in Lake City, Mo.

Jim served two years in the Army with the Third Military Railroad Service and was stationed half of the time in Japan.

He attended the University of Kansas.



What's the political picture for 1962?

Busy and serious is the consensus. This consensus is based on the problems being faced in the 87th Congress which has been in session since Jan. 10.

The information shown on this page is a valuable guide for public-spirited Sandia Corporation employees throughout the nation.

It is good citizenship to be registered and vote in the upcoming primaries and general election. It is the mark of a good citizen to seek information on candidates and issues and to offer his services and financial help to the party of his choice.

Sandia Corporation employees are active in politics. As pointed out in this and the last issue of

the Lab News, a number of them are running for public office. Interest in politics is high among Sandia employees and the better they are informed the better citizens they can be.

Issues are abundant this year. Each voter no doubt has his own pet issues to expound upon. A newspaper columnist has selected the five top issues on the 87th

Congress' docket as tariff legislation, tax reform, medical care for the aged under Social Security, reducing the number of jobless, and higher postal rates.

Select your own issues as the most significant, but understand what you are talking about. Be an informed voter. Be registered. Get to the polls.

STATE	U. S. CONGRESS		GOVERNOR		STATE LEGISLATURES				FINAL FILING	DEADLINE FOR REGISTRATION		POLL TAX DEADLINE FOR PAYMENT	PRIMARY DATE	RUNOFF PRIMARY
	Elect a Senator	No. of Representatives	Elect	Term	UPPER HOUSE		LOWER HOUSE			PRIMARY	GENERAL ELECTION			
					Elect	Term	Elect	Term						
Alabama	Yes	8	Yes	4	35*	4	106*	4	Mar. 1	April 20	Oct. 26	Feb. 1	May 1	May 29
Alaska	Yes	1	Yes	4	10	4	40	2	May 1	Register at time of voting			Aug. 14 Date subject to change	
Arizona	Yes	3	Yes	2	28	2	80	2	Aug. 2	July 6	Sept. 24		Sept. 11	
Arkansas	Yes	4	Yes	2	17	4	100	2	May 2	No registration—Poll Tax receipt is evidence of right to vote		Oct. 1 1961	July 31	Aug. 14
California	Yes	38	Yes	4	20	4	80	2	April 6	April 12	Sept. 13		June 5	
Colorado	Yes	4	Yes	4	16	4	65	2	July 28	Aug. 27	Oct. 22		Sept. 11	
Connecticut	Yes	6	Yes	4	36	2	294	2	Nominating Conventions	June 8	Oct. 13		Challenge Primary permitted	
Delaware	No	1	No	4	10	4	35	2	Nominating Conventions		Oct. 20		None	
Florida	Yes	12	No	4	19	4	95	2	Mar. 6	April 7	Oct. 6		May 8	May 29
Georgia	Yes	10	Yes	4	54	2	205	2	To be set	To be set	May 5		To be set	To be set
Hawaii	Yes	2	Yes	4	12	4	51	2	Sept. 6	Sept. 6	Oct. 16		Oct. 6	
Idaho	Yes	2	Yes	4	44	2	63	2	Apr. 21	June 2	Nov. 3		June 5	June 26
Illinois	Yes	24	No	4	29	4	177	2	Jan. 22	Mar. 13	Oct. 9		April 10	
Indiana	Yes	11	No	4	25	4	100	2	Mar. 29	April 9	Oct. 8		May 8	
Iowa	Yes	7	Yes	2	21	4	108	2	Mar. 31	May 25	Oct. 27		June 4	
Kansas	Yes	5	Yes	2	None	4	125	2	June 20	July 17—Kansas City, Topeka, Wichita July 27—Others	Oct. 16—Kansas City, Topeka, Wichita Oct. 26—Others		Aug. 7	
Kentucky	Yes	7	No	4	None	4	None	2	April 4	Mar. 31	Sept. 8		May 29	
Louisiana	Yes	8	No	4	None	4	None	4	June 1	June 27	Oct. 6		July 28	Sept. 8
Maine	No	2	Yes	4	34	2	151	2	April 2	Varies by towns and cities			June 18	
Maryland	Yes	8	Yes	4	29	4	123	4	Mar. 5	April 14	Sept. 24		May 15	
Massachusetts	Yes	12	Yes	2	40	2	240	2	July 31	Aug. 17	Oct. 5		Sept. 18	
Michigan	No	19	Yes	2	34	2	110	2	June 19	July 9	Oct. 8		Aug. 7	
Minnesota	No	8	Yes	2	67	4	135	2	July 17	Aug. 21	Oct. 16		Sept. 11	
Mississippi	No	5	No	4	None	4	None	4	April 6	None	July 6	Feb. 1	June 5	June 26
Missouri	Yes	10	No	4	17	4	157	2	April 24	July 11—Kansas City; July 14—St. Louis	Oct. 10—Kansas City Oct. 13—St. Louis		Aug. 7	
Montana	No	2	No	4	28	4	94	2	April 26	April 21	Sept. 22		June 5	
Nebraska	No	3	Yes	2	Unicameral Legislature 43 members, 2 year term				Mar. 15	Douglas and Lancaster Counties May 4 Oct. 26 Cities 7,000-40,000 May 5 Oct. 27			May 15	
Nevada	Yes	1	Yes	4	10	4	37	2	July 18	Aug. 4	Oct. 6		Sept. 4	
New Hampshire	Yes	2	Yes	2	24	2	400	2	July 26	Sept. 1 Sept. 8 Sept. 10	Cities Large Towns Small Towns Oct. 27 Nov. 3 Nov. 5	Sept. 1	Sept. 11	
New Jersey	No	15	No	4	None	4	None	2	Mar. 8	Mar. 8	Sept. 27		April 17	
New Mexico	No	2	Yes	2	None	4	66	2	Mar. 6	April 9	Oct. 8		May 8	
New York	Yes	41	Yes	4	58	2	150	2	DATES UNAVAILABLE PENDING LEGISLATION					
North Carolina	Yes	11	No	4	50	2	120	2	Mar. 16	May 12	Oct. 27		May 26	June 23
North Dakota	Yes	2	Yes	2	24	4	113	2	May 17	No Statewide Registration			June 26	
Ohio	Yes	24	Yes	4	16*	4	139*	2	Feb. 6	Mar. 28	Sept. 26		May 8	
Oklahoma	Yes	6	Yes	4	22	4	121	2	Mar. 2	April 20	Oct. 26		May 1	May 22
Oregon	Yes	4	Yes	4	16	4	60	2	Mar. 9	April 17	Oct. 6		May 18	
Pennsylvania	Yes	27	Yes	4	25	4	210	2	Mar. 12	Mar. 26	Sept. 17		May 15	
Rhode Island	No	2	Yes	2	46	2	100	2	June 30	July 13	Sept. 7		Sept. 11	
South Carolina	Yes	6	Yes	4	23	4	124	2		May 12	Oct. 6		June 12	June 26
South Dakota	Yes	2	Yes	2	35	2	75	2	April 21	May 16	Oct. 18		June 5	
Tennessee	No	9	Yes	4	33	2	99	2	June 3	July 3	Oct. 7		Aug. 2	
Texas	No	23	Yes	2	30	4	150	2	Feb. 5	No registration, Poll Tax receipt or Exemption Certificate is evidence of right to vote		Jan. 31	May 5	June 2
Utah	Yes	2	No	4	11	4	64	2	July 10	Aug. 28	Oct. 30		Sept. 11	
Vermont	Yes	1	Yes	2	30	2	246	2	Aug. 1	Sept. 8 Not required if name is on "Check List"	Nov. 3		Sept. 11	
Virginia	No	10	No	4	None	4	None	2	April 11	June 9	Oct. 6	May 5	July 10	Aug. 14
Washington	Yes	7	No	4	25	4	99	2	July 13	Aug. 10	Oct. 5		Sept. 11	
West Virginia	No	5	No	4	16	4	100	2	Feb. 3	April 8	Oct. 6		May 8	
Wisconsin	Yes	10	Yes	2	17	4	100	2	July 10	Aug. 29	Oct. 24		Sept. 11	
Wyoming	Yes	1	Yes	4	13	4	56	2	July 12	Aug. 21	Oct. 22		Aug. 21	

Promotions

Jose S. Dominguez (4574) to Special Handler
Rafael Armijo (4574) to Special Handler
Raymond Goddard (4231) to Technician
Gilbert J. Lovato (4231) to Technician
Roy A. Rogers, Jr. (4573) to Automotive Mechanic
Robert B. Lale II (3444) to Messenger
Lola Brown (3421) to Library Assistant
Orlinda R. Medina (3423) to Typist
Richard Cortez (8121) to Laboratory Assistant
George E. Peyo (8121) to Staff Assistant, Technical
Edward A. Salazar (1112) to Staff Associate, Technical
Lloyd R. Myers (8121) to Staff Associate, Technical
Guy C. Willis (8133) to Staff Associate, Technical
Jose G. Martinez (4574) to Lampman
Rita M. Herrera (3126) to Stenographer Clerk
B. Jean Jeffs (3421) to Library Assistant
William F. Lewis (3444) to Employment Clerk
Juanita R. McBride (4135) to Invoice Clerk
Betty Jo Morrow (7241) to Mathematics Analyst
Richard L. Miller (3467) to Service Coordinator
Vernon R. Ivins (8223) to Bench and Machine Operator
Frank Petrini (8223) to Model and Instrument Maker
Frances M. Johnston (8212) to Typist
Herbert E. Pruett (8232) to Teller
Ruth P. Brockett (8212) to Secretary
D. R. Fenstermacher (3421) to Library Assistant
Iris C. Stripling (3126) to Secretarial Typist
Christine Baca (4130) to Secretary
A. C. Heaston (7241) to Standards Analyst
Herman Kirby (4621) to Dismantler
Pablo L. Baca (4621) to Dismantler
Lester M. Bierly (4612) to Stockkeeper
M. T. Hodge (4511) to Cleaner
Paul A. Leonard (4621) to Dismantler
James A. Dyer (4224) to Technician
Dana J. Drannon (3446) to File Clerk
Merejildo Gallegos (7241) to Data Reduction Clerk
Leo A. Doyal (7241) to Data Reduction Clerk
Mary N. Winter (4362) to Purchase Service Clerk
Ann L. Ercole (5420) to Secretary

Supervisory Lateral Transfers
J. H. Gibson from 3154 to 3342
R. G. Elsbrock from 3311-1 to 3211-1
W. A. Jamieson from 8212 to 8233
A. D. Pepmueller from 8233 to 8212

380 HP Mill Pushes Hybrid Racer to 90 Miles Per Hour

At 90 mph a brilliant orange and white car roared around the three-eighths-mile track. P. A. "Bud" Leonard (3444) was giving the home-built car its pre-season shakedown.

In the pit, James Leonard (4622) watched anxiously. He and his son, Bud, had spent the winter overhauling the car. It is "hot." The big modified Oldsmobile engine revved up to about 6500 rpm and developed about 380 horsepower.

Bud rolled it to a stop gently.

A crowd, many Sandians among them, gathered around.

"Looks like it's going to be a good season," someone said.

Jim Leonard agreed. As president of the New Mexico Motor Racing Association, he expects about 30 cars to be racing every other weekend from April through October.

The first race is scheduled Sunday, Apr. 8, at 2 p.m. at Speedway Park.

Last season, Bud was third highest driver in the Association with the number of points won in competition. He racked up the score while competing in only 15 of the total 22 events. He is gunning for first place this year.

The Leonards' car, No. 77, was built two years ago. They started with a Model-T frame and the big Olds mill; everything else is practically hand-made. Jim is the welder of the two; Bud works on the mechanics. Between them, they have created the car out of miscellaneous parts, pipe, sheet metal, and Fiberglas.

About 500 hours went into the original building and another 500 hours in last winter's rework. "We stripped it down and overhauled everything," Jim said. "Next year, we will probably build another. In the meantime, we have races to win."



ADMIRING CAR NO. 77 are members of the New Mexico Motor Racing Association. Standing from left are Billie L. Palmer (6021), Bud Leonard (3444), Merlin D. Hansen (7521), and David A. Paschal. Adjusting carburetor are Jim Leonard (4622) and Charles E. Horner (4211). Races will start Sunday, Apr. 8.



SHAKEDOWN RUN of No. 77, modified stock car racer built by Bud and Jim Leonard, was held last week at Speedway Park. Car hit 90 mph on three-eighths-mile track which has no straight run.

Women's Golf Association Plans To Start League Team Play May 1

Officers and board members were elected at a recent meeting of the Sandia Laboratory Women's Golf Association. After the elections, golf league business was discussed.

New officers include Rose Hainlen (4151), president; Sybil Milligan (AEC), vice president; Cheryl Burns (3432), handicap chairman; and Nina Stone (4423), treasurer. Board members include Mary Mayes (5434), Rosalie Crawford (1), Mary Ellen Flanagan (7243), Juanita Van Jelgerhuis (4333), Maxine Stevens (3126), Alma Mischke (4152), and Ann Michele (4510).

League applications should be submitted to the Association before

April 10. Entry fee for league play is \$1. Tuesdays were selected for league play, provided there is no interference by other play on the Los Altos Course. Time of play is 5 p.m. for nine holes.

Team members will begin league play May 1. The month of May will be used by members for obtaining handicaps and experience. A minimum of 27 holes is required to establish a handicap. Tournaments will be planned after league play starts.

The next meeting of the Association is scheduled for April 12 at 1:15 p.m. in Room 15 of Bldg. 610. Golfers requesting further information are asked to call O. J. Foster, Services and Recreation Section (3122), at ext. 29157.

Club Ski Fans End First Year of Activity With Big Social Event

The Coronado Ski Club will mark the end of the 1961-62 season with a party at the Coronado Club's La Cana room at 8:30 p.m., Friday, Apr. 13.

New officers elected during the March meeting were: Max Newsum (7164-2), president; Gary Willingham (7147-2), vice president; Marie Bush (wife of Don Bush, 1323-2), secretary; and Norman Chamberlain, AEC-ALO Finance Division, treasurer.

In the club's first year 58 members were signed up, monthly meetings offered numerous ski movies and a fashion show of ski apparel, a one-day trip to Santa Fe ski basin was organized, and 75 persons attended a four-day outing at Red River in late February.

SHOPPING CENTER

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CLASSIFIED ADVERTISING

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

RULES

1. Limit: 20 words
2. One ad per issue per 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

FOR SALE

- '56 FORD 4-dr., Country Sedan, 225 HP air conditioned, auto. trans., R&H, padded dash, one owner, \$800. Bowen, AL 5-6759.
- KENMORE GAS STOVE, standard 42" wide, best offer. Newton, 298-0785.
- MANITOWOC FREEZER, upright, 18.5 cu. ft., 1/2 price. Mueller, 2728 Vermont NE, 299-1079.
- '56 INTERNATIONAL TRAVELALL, 4wd, pulls through anything, snow and mud tires, wheel hubs, low mileage, 5-speed, \$800. Norton, BU 2-3165.
- 9x15 dark green wool wilton rug and pad. Carter, DI 4-6563.
- '59 FIAT convertible coupe, light blue, economy car, \$495. Radman, AM 8-8970.
- '61 NASH STATION WAGON, standard shift, air conditioned, R&H, 24 mi. gallon, low mileage. Cummings, CH 2-1061 after 5 p.m.
- '57 CHEVROLET Belaire, 4-dr. hardtop, R&H, wsw's, auto. trans., \$795 or best offer. Schmuldt, 512 Monroe NE, Apt. G, ext. 27236.
- 6 1/2" PROVINCIAL WING-BACK COUCH, like new, upholstered in brown, beige, aqua, \$85; dress form, fully adjustable, \$7.50. Galbreath, DI 4-4306.
- 40" GE pushbutton range, \$50. McDowell, AX 9-6222.
- 3-BDR MOSSMAN, 1 3/4 bath, hobby room, den, utility, Hotpoint kitchen, a/c, fireplace, corner lot, walls, sprinklers, fruit trees, 2942 Cagua NE. Lenz, AL 6-7037.
- LAWSON 2-cushion divan, mauve color, nubby nylon material w/innerspring mattress, \$100. Klopolsky, AX 9-4110 after 5 p.m.
- RECORD CHANGER, Garrard RC-88 with base and GE RPJ-004 diamond stylus magnetic cartridge, 3-speed, monaural, \$25. Auerbach, CH 2-6478.
- '56 CHEV.-6, shift stick, R&H, \$495 or will trade for Volkswagen. Jercinovic, AL 5-8027.
- '51 CHEV. 1/2-ton pickup, overhauled, good tires, \$325. Baca, AL 5-8452.

- TABLES, blond, 3 large size, coffee, corner, step, all have large drawers, will sell for \$45. Banos, 708 Truman SE, AL 6-6613.
- TWO CRYPTS in Sunset Memorial Mausoleum. Calkins, AL 6-0041.
- HARDWICKE GAS RANGE, oven timer, outlet, clear-view oven w/lamp, modern, retailed \$275, now \$125. Balint, 4715 McKnight NE, 268-4812.
- MAPLE BED FRAME, single, \$20; child's chest-of-drawers, blond, \$15; large oil painting in gilt frame, landscape, \$35. Pardee, AL 5-1998.
- '56 MERCURY Medalist, 4-dr., auto. trans., R&H, \$350. Gonzales, AX 8-1625.
- FOUR 670-15 Ford wheels and tires, mid-50 vintage, 2 mud and snow grips, like new, \$35; two regular tread, \$10 each. Yarbrough, AL 5-4087.
- NEW RINGS, engagement and wedding band, size 6, cost \$265, will take \$165. Paul, 256-6228 after 5 p.m.
- 12 HP OUTBOARD MOTOR, has only 8 hrs. running time; 19 cu. ft. chest-type deepfreeze, new motor-compressor unit. Nissen, AL 5-5657.
- ROOM COOLER, console model with recirculating pump, used 2 months, half price. Zanetti, 299-4639.
- JIG SAW, Sears 24" throat, like new; Ampex Model 1250 tape recorder, four track record and playback, \$420. Denison, AL 5-3535.
- ROBERSON, 2-yr.-old, fireplace, family room, stone entry hall, insulated, wood paneled, double garage, landscaped, \$17,670. Coolson, AX 9-0717.
- '56 FORD PICK-UP, with or without all metal cab, high cover for back. Tangney, TR 7-9331.
- CUSTOM-MADE upholstered chair, \$30; electric dryer, \$25. Doherty, 1833 Georgia NE, AM 8-7239.
- ELECTRIC BOTTLE STERILIZER, \$4; baby bassinett w/pad, rolling stand, \$9; Voit brand swim fins and underwater mask, \$5. Bemis, 268-6376.
- '59 NASH RAMBLER, 4-dr., R&H, will sell or trade equity for good transportation. Calvery, 299-0455.
- '55 CHEV. convertible, V-8, Belaire, red and white. Benzling, AX 9-8601 after 5 p.m.
- '58 FORD Custom 300, R&H, one owner, \$635; Serta-Lux box springs and mattress, like new. Coughenour, AX 9-0914.
- HEAVY DUTY WINCH, cable power take-off fits International, \$65; heavy rear bumper for all Studebaker pickups w/hitch, \$20. Penn, BU 2-3997.
- '60 FIAT 600, 8500 miles, more room than a VW, 30-35 mpg, \$750; '58 Pontiac wagon, straight stick, best offer. Westman, AL 5-6048.
- 15' MERCURY CAMP TRAILER, sleeps five, double butane bottles, electric brakes, jacks, undersealed. Holloman, 344-3274 after 6 p.m.
- ONE ACRE with cabin and storage shed on State Road 217 south, \$1800 cash or \$2000 terms. Horner, AL 6-4622.

NEXT DEADLINE FOR SHOPPING CENTER ADS Friday Noon, Apr. 6

- '59 VOLKSWAGEN SDN, \$1095. Bowling AX 9-6384.
- BABY GRAND PIANO, terms, 2921 Cagua NE. Schaeffer, AM 8-7585 or AL 6-7009.
- BELLAMAH HOME, 2 1/2 yrs. old, corner lot, a/c, carpet throughout, wall, GI loan, \$500 down, \$110/mo. Ahr, AM 5-0653.
- BRICK, 3-bdr, 1 3/4 baths, c/a heat, oak floors, near schools, shopping and bases, walled yard. 915 Florida SE, Kelly, AM 8-5429.
- MODEL 52-Winchester target .22 with 10x Litschert target scope, palm rest and adjustable butt plate, \$125. Feliciano, 299-0434.
- POLAROID model 800 camera w/wink light, like new. Trumble, AX 8-3397.
- DUPLEX, SE Heights, 2-bdr. units, plus, new FHA loan available. Petrone, AL 5-3633.
- 2-WHEEL TRAILER, 4x6', \$35; gas range, \$15; large tent, \$75. Breitenbach, 268-7900.
- ELECTRIC RANGE, Hotpoint 39". Rutherford, 298-0773.
- TWO 760:15 w/w tires, tubes, and wheels for late model Chevrolet; two truck mufflers for '56 Chevrolet. Wilson, AX 8-0049.
- '56 OLDS 88, 4-dr., R&H, PB, WSW, tinted glass, beige and white, 65,000 miles, will finance. Thomas, AX 9-0178.
- TWO TWIN-SIZE beds w/box springs, innerspring mattresses, head boards; Keystone 8mm movie camera, magazine-load, turret lens w/standard F 1.9 lens and wide angle lens. Busby, 3200 Blume NE, 299-6450.
- ROCKING CHAIR, maple finish, \$10; pine book case, clear finish, \$6; kitchen utility table, metal, \$5. Hart, AX 9-8832.
- 8' GARAGE DOOR, one-piece metal overhead type, springs and all hardware mount on jamb, nearly new, \$50. Van Deusen, AX 9-4328.
- '54 FORD, new brakes, radio, seat covers, chains, 4-dr. auto., \$250; Hi-Standard double nine revolver. Newcomer, 255-9728.
- 3-BDR, 1 3/4 bath, pitched roof, a/c, landscaped, 1400 sq. ft., 5 1/4% GI, 4704 Hilton NE. Fellenhoff, DI 4-9615.
- FRENCH POODLE, 8 mos. old, female, black, from a line of champions, \$50. Winter, DI 4-4456.
- RELOADING EQUIPMENT Pacific, complete for 9 calibers, sell all for \$200, no pieces. Smythe, 242-8300.
- '50 CHEV. 4-dr, R&H, new paint, \$175. Campbell, 9608 Haines, NE, AX 9-9195.

- FREE PUPPIES, about April 7, mother-Cheasapeake Retriever. Minser, 299-1364.
- AIR COOLER, portable, \$15. Kahl, ext. 22280.
- '60 CUSHMAN scooter, 5200 miles, \$225. Krahling, 1036 Princeton NE, AM 8-8126.
- HOSPITAL BED, complete, \$40. Schroer, 2611 Gen. Bradley, NE, AX 9-2090.
- KLING full-size maple bed, may be added to from open stock at Modesta's. Brown, CH 3-0717.
- 36" KENMORE GAS RANGE, porcelain enamel finish w/electric rotisserie, broiler, top griddle, oven door glass, electric clock and timer \$100. Johannesen, AL 4-9113.
- 5" OSCILLOSCOPE. Vaughn, AL 6-0341.
- FOUR-DRAWER CHEST, \$14; typewriter desk, \$12.50; blond swivel-top TV table, \$7; rack of shelves on rollers, \$14. Campbell, AL 6-1015.
- 1-BDR home on lot approximately 60x130, redecorated inside and out, large storage facilities. Papineau, AM 8-0174 after 5 p.m. or weekends.
- MAGNAVOX combination, radio, FM, AM, 21" TV, 4-speed record player, blond console cabinet, \$100. McCoy, AX 8-0193.
- THAYER baby crib w/double drop sides, adjustable height springs, mattress, \$20. Goodman, AX 8-2287.
- 120 BASE ACCORDIAN, used two years, color-red, \$100 or best offer. Perea, AL 5-6902.
- 3-BDR, den, 1800 sq. ft., a/c, sprinklers, landscaped, built-ins, many extras; also make offer for many items of furniture. Recter, AX 9-9164.
- PHILCO washer, wash-rinse selectors, 2-cycle, \$70; Hotpoint dryer, 110/220 v, \$50 both 10 pounds. Nix, 298-4282.
- SLEEPER CAMPER w/6 windows, 2 bunks, for Chev. or GMC wide-side 8' bed pickup, \$60. Bewley, 1101 Alcazar NE, AL 5-8024.
- SIDE-BY-SIDE twin stroller; 3-yr.-old registered black female poodle. Rolloson, AL 6-1259.
- GOLF CLUBS, matched set Wilson staff model, series 2, woods 1-4, Wilson Dynaweight irons No's. 2-9, \$50. Whitmer, AM 8-6001 after 5 p.m.
- '60 RAMBLER American station wagon, OD, 2-dr., tu-tone green, 21,000 miles, mattress included, \$1350 or best offer. Rynders, AX 9-3894.
- 3-BDR, 1 3/4 bath, grammar school and jh 2 blocks, \$14,500, 4 1/2% GI, no qualifying, will refinance. Stixrud, DI 4-7873.
- 21" RCA TV, maple, console, \$45. Stambaugh, AL 5-5627.
- GERMAN SHEPHERD, male, 1-yr.-old, obedience trained, black and tan, good watchdog, \$50. Newman, 268-0314.
- CRAFTSMAN 8" tilting arbor saw, jointer, stand, and 3/4 horse motor, \$125. Gardner, DI 4-2547.

- GE RANGE, 40" wide, \$110; wardrobe, sliding doors, cedar lined, grey exterior, \$30. Lilly, 298-2560.
 - '57 DODGE V-8, 4-dr., Coronet, R&H, Power Torque-Flite, one owner. Hinman, AX 8-1027.
 - '55 CHEV station wagon, 4-dr., 6-cyl., auto. trans., \$475. Farmer, AX 9-5927.
 - '55 PLYMOUTH, 4-dr. wagon, V-8, stick, R&H, good tires. Toft, AL 6-4013.
 - MAYTAG automatic washer, \$35. Smith, 268-2141.
 - AUTOMATIC defrost refrigerator w/ freezer, \$85; electric range, \$45; portable sewing machine w/case, \$25; automatic washer, \$40; 2 wrought-iron naugahyde scoop chairs, \$5; 30-gal. gas heater, \$10. Gardner, DI 4-2547.
 - MOSSMAN house, 4-bdr., den, 1 3/4 bath, large steel fallout shelter. Delnick, AM 8-2530.
- WANTED**
- POWER SAW, 8 or 10 inch, reasonable. Calvery, 299-0455.
 - PRE-SCHOOL-AGE children kept in my home, Inez Addition. Coffee, AX 9-5461 after 5 p.m. or weekends.
 - TO TRADE pink convertible '48 DeSoto, runs, for scooter; also need old TV set with channel one. Pritchard, AM 8-6430.
 - THAYER round-net playpen. Trumble, AX 8-3397.
 - .22 CALIBER target pistol, should be in good condition. Denison, AL 5-3535.
 - WROUGHT IRON, bamboo or wicker furniture, also wrought iron adjustable TV stand. Fletcher, 298-2142 after 5 p.m.
 - MALE car pool member to join pool between gate 7 and vicinity of Morris and Menaul streets NE. Smith, AX 9-1264.
 - TRICYCLE, medium or large size, must be good quality. Smith, AM 8-1228.
 - WILL baby sit in your home. I have transportation. Aberg, 6901 Zuni Rd. SE, Space 16.
- FOR RENT**
- ROOM in nice home, carpeted w/private bath and garage. Share home with lady. In lovely addition near Sandia Base. Yurcic, AX 9-2389.
 - FREE RENT, mountain cabin, rough, for one person or couple, 10 min. from base. Chavez, AL 5-5461.
 - 15' TRAVEL TRAILER, sleeps five. Colp, AM 8-8035.
- LOST AND FOUND**
- LOST—1st National checkbook, 3-blade brown bone pocket knife, manual on preamplifiers, gold flower earring w/ green set, chrome pocket knife with Sohio printed on one side, black gloves, brown pigskin tobacco pouch, sunglasses, Bell System and Sandia tie clip, Mexican silver drop earring. LOST AND FOUND, ext. 26149.
 - FOUND—Shield earring, roll of pennys, brown print scarf. LOST AND FOUND, ext. 26149.

Sandia Measurement of Things Calls for More Equipment Than Common Yard Stick

How much energy in a spring? Exactly how flat is a surface? How accurate are the teeth in a gear? It is the measurement of "things" rather than "tools" that interests Mechanical Standards Section 4232-4.

Supervisor H. M. Meidal has five men with machine shop and precision mechanical measurement backgrounds. These are important qualifications since this is a service function to those same related organizations at Sandia Laboratory. "The men must also have patience and dexterity," Mr. Meidal says.

To assist them in their work is a variety of instruments ranging from simple optical flats (which utilize light waves to determine surface contour) to an elaborate universal measuring microscope.

The latter is the most expensive single item in this section. The instrument is used in the measurement of tools, gages, and product

components such as small timing-device parts. The split-beam optical system enables the operator to view all of the measurement scales, as well as the object, through an adjustable binocular eyepiece. The linear and angular scales read directly to 50 millionths of an inch and one minute of arc respectively. One of the many accessories enables the taking of photographs of an object with 10-, 20-, or 80-power magnification.

There are several devices for measuring extension and compression springs. These testers will detect spring forces from 5 mg. up to 2500 lbs. Torsion spring measurements range from .025 oz./in. to 88 lbs./in. These test fixtures are used to assist test groups, the shops in fabrication, and organizations such as Timers and Special Devices Division 1321, in analyzing springs.

The technicians use a gear roll tester to evaluate gear elements such as total composite error,

tooth-to-tooth error, and pitch radius. The power-operated tester utilizes the engagement of a master gear with the gear under test. A strip-chart recording provides the means for interpolating the results.

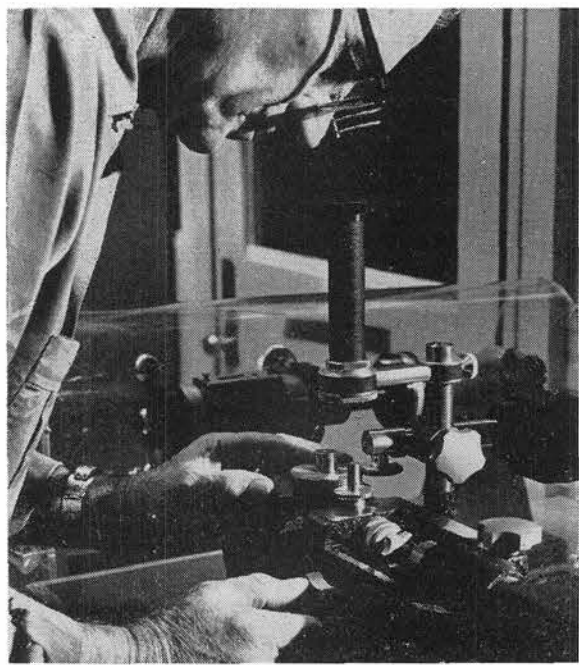
Still another piece of equipment tests for roundness, squareness and concentricity. The results may be read directly from a polar-chart recording. The axis of the rotary mounting table is accurate to three millionths of an inch.

Other services provided by this organization are: repair of dial indicator gages, periodic calibration of gages and measuring devices, dynamic balancing of rotating bodies, and alignment testing of machine tools such as lathes, milling machines, and surface grinders.

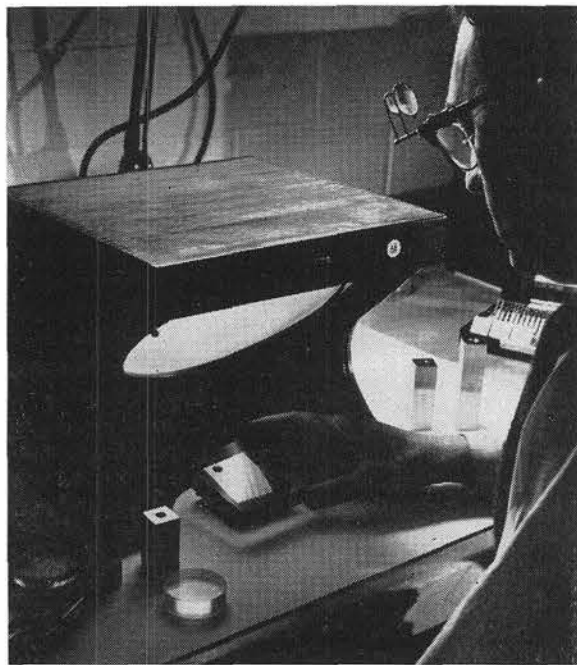
"Our work is seldom routine," Mr. Meidal says. "Usually the most important part—and the most time-consuming part—is determining the best approach for obtaining the most accurate results."



LENGTH MEASUREMENT, with direct readout to .000010 of an inch, is possible with this device in Mechanical Standards Section 4232-4. Machine, being operated by E. A. Kraehling, will measure items up to 80 in. Supervisor H. M. Meidal (right) awaits results.



GEAR ROLL TESTER is used by J. B. Sweatman (4232-4) to determine accuracy of gear under test by means of engagement with master gear.



OPTICAL FLAT is used by H. J. Schroer (4232-4) to determine flatness of steel block. Dark bands are made more pronounced by helium light.



UNIVERSAL MEASURING MICROSCOPE operated by E. T. Bureta (4232-4) is being used to evaluate a small gaging device.



AMOUNT OF FORCE in a spring is measured by R. G. Brooks (4232-4). Total weights indicate spring force for given length.

Sandia Water Ski Fan Seeks Others Interested In Forming Organization

Walter W. Westman (2442) is a water skier who wants to share his enthusiasm. He has in mind organization of a water ski club.

"There are two good water ski areas relatively close to Albuquerque," Walt says, "Elephant Butte and Conchas Reservoir." Walt spent every weekend last year from mid-April through late October at Conchas water skiing with his family.

"It's a great sport and almost anyone can learn quickly," he says.

Walt points out that there is a need for new boating and skiing legislation in the state. Another need exists for officially-sanctioned water skiing competitive meets.

"A water ski club could be a focal point for meeting these needs," Walt says.

Anyone interested in forming such a group is invited to attend a meeting Monday, Apr. 9, in Walt's home at 2806 Valencia NE. Any questions can be referred to Walt telephone AL 5-6048.

Rescue Breathing Credited With Bringing Pooch Back from Brink

Four-year-old Tina is alive today, thanks to rescue breathing. This relatively-new artificial respiration technique has been applied successfully on humans, but Tina is a dog.

The five-pound toy poodle, belonging to Jesse and Ruth Burns (8123-1/8116-2), struck her head when she jumped, slipped and fell apparently lifeless on a highly polished floor. Ruth desperately attempted to revive the dog, then handed it to Jesse, who applied mouth-to-mouth resuscitation.

R. E. "Smokey" Maxwell (8214), who was visiting the Burns at the time, relieved Jesse a few moments later. The tiny poodle responded and wagged her tail in gratitude.

Jesse and Smokey had recently attended safety meetings at Livermore Laboratory and saw demonstrations of mouth-to-mouth rescue techniques. They used the same procedures on Tina.

A Livermore veterinarian later examined the dog and found it to

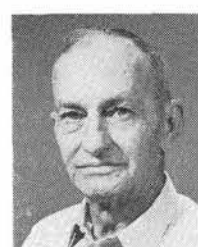


A LOVING LICK from her poodle Tina is ample reward for Ruth Burns (8116-2) after her husband Jesse (8123-1) and R. E. Maxwell (8214) saved the dog's life by unusual mouth-to-mouth rescue breathing.

have a concussion. "The dog wouldn't have been alive without artificial respiration," he said.

L. B. Johnson to Retire March 30

Leslie B. Johnson, a Sandia Laboratory employee for 11 years, will retire Mar. 30.



from Fort Worth.

Mr. Johnson says he may try to learn to fish since he "never had time before."

He is a machinist in Branch Shop Section 4252-6.

Mr. and Mrs. Johnson plan to return to their original hometown in Texas—Weatherford, about 30 miles

Sandia's Safety Record

Sandia Laboratory HAS WORKED 1,200,000 MAN HOURS OR 34 DAYS WITHOUT A DISABLING INJURY

Livermore Laboratory HAS WORKED 700,000 MAN HOURS OR 125 DAYS WITHOUT A DISABLING INJURY

Welcome Newcomers

Mar. 12-23

Albuquerque	
*Mabel C. Avallone	3126
Joseph M. Garcia	4574
Marilyn A. Krause	3446
Rudolph A. Martinez	3444
*Kathryn B. Moore	4333
Louis C. Nogales	3444
Caryl A. Smith	3126
William J. Smith	4574
Illinois	
George A. Samara, Urbana	5132
Missouri	
Glen A. Fowler II, Kansas City	2544
* Denotes rehired	
Returned from Leave	
Philomena C. Christensen	4423

Seek Students to Take Manufacturing Processes Course at University

Anyone interested in attending an evening credit course in Manufacturing Processes (63L) at the University of New Mexico is requested to contact E. R. Dunaway (1113) at AX 9-1422. Fifteen students are needed for the class to be offered. It would meet two nights a week with a lab on Saturday morning.