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Sandia Scientist Resolves Metal Hydrides Controversy

A Sandia Laboratories scientist has resolved the controversy over the electronic state of the hydrogen atom when metals take up hydrogen to become hydrides. This work, performed by Al Switendick, supervisor of Solid State Theory Division 5151, will help to provide a better understanding of all metal hydrides — including those purposely manufactured for their high hydrogen content and those inadvertently created during metals processing and in nuclear environments.

Hydrides are formed as hydrogen invades the basic framework of a given metal, called the lattice, and attaches itself to sites in the billions of identical unit cells that make up the lattice. This often weakens the structural integrity of the metal. On the other hand, it can produce a density of hydrogen (in titanium, for instance), that is so great that it exceeds that of liquid hydrogen. This latter effect makes hydrides of metals such as titanium and zirconium suitable for use in reactor control rods, since a high hydrogen density operates as a moderator of neutron radiation. Metal hydrides are also of importance in powder metallurgy and are sometimes used as coatings on metals — either for protection or to aid in the bonding with other materials such as ceramics.

In the past, theoretical predictions of how given metals will be converted to hydrides have been governed by two principal models, the proton and anion models, in which the hydrogen atom either loses its electron or gains an additional electron in order to form a bond with the host metal atoms. Neither

model has proved to have universal validity, however, with the result that predictions for the hydriding of unusual materials were often inaccurate.

Al's energy band calculations of the electronic energy levels of metal hydrides give fundamental insight into the structural stability and electronic properties of hydrides and replace the proton and anion models with a unifying new model.

The calculations show, for instance, why scandium does not form a trihydride (ScH_3) whereas the elements of the same column of the periodic table yttrium and lanthanum (and for that matter all the trivalent rare earths) do form trihydrides.

The calculations for the dihydrides of molybdenum, palladium, tungsten, and tantalum show why these hydrides do not exist while the dihydrides of scandium, titanium, vanadium, chromium, yttrium, niobium, and the rare earths do exist.

The new model derived from these calculations states that the electronic properties of a metal hydride depend upon (a) where in each unit cell the hydrogen is located and (b) the distances between the hydrogen atoms in the lattice. Since the lattice structures of metals are well known, hydrogen-receptive sites can be identified with relative ease and the susceptibility to hydriding determined.

His work is described in detail in the German technical journal *BERICHTE DER BUNSEN-GESELLSCHAFT FÜR PHYSIKALISCHE CHEMIE*, June 1972 and the *INTERNATIONAL JOURNAL OF QUANTUM CHEMISTRY*, No. 5, 1971.



Chuck Trauth

Two Sandians Named Fellows

Chuck Trauth, supervisor of Biosystems Studies Division 1741, has been named a Fellow in the Royal Society of Health. Members of this London based organization are active in public health matters throughout the world.

A mathematician, Chuck has made important contributions to the field through his Sandia work in sterilization of organisms using a combination of low levels of heat and radiation. Chuck also directed the development of a computerized system to maintain a record of organisms sent to the moon, and, in conjunction with the U.S. Public Health Service, a general approach to bacterial identification.

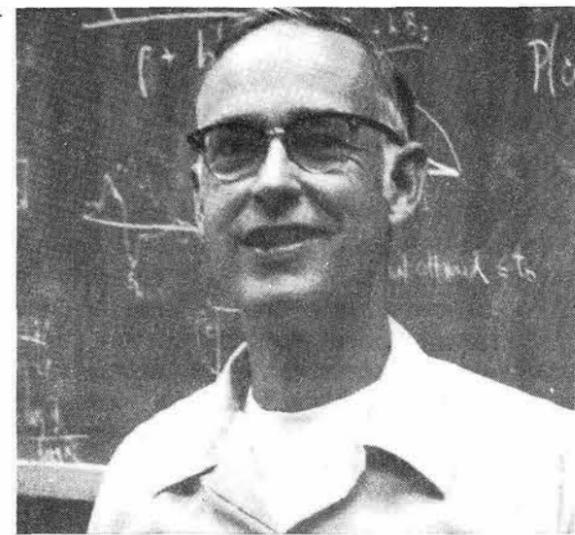
He has served on subcommittees of the Planetary Quarantine Advisory Panel of the American Institute of Biological Sciences and consulted on analytical biological problems with the U.S. Public Health Service, World Health Organization, NASA and the AEC.

Chuck joined Sandia in 1962 after earning a PhD in mathematics from the University of Michigan.

* * * *

At special ceremonies during the annual meeting of the American Statistical Association, held earlier this month in Montreal, Canada, George Steck (1722) was named a Fellow of ASA. He is the first New Mexican to receive this honor. The award was based on George's contributions to the field of statistics.

George has published many articles on mathematical statistics and mathematical applications. He is chairman of the New Mexico Chapter of ASA, and has served as book review editor for the national association. He has been at the Laboratories for 17 years.



George Steck

Afterthoughts

American Roulette--A very recent legend deals with the newly elected president of a newly formed nation. Following ancient custom, he sought the divine assistance of the great god Mahooka. After the prescribed fasting and mortification, Mahooka appeared in his trance. "What boon may I grant you, my son?" said Mahooka. "As new leader of a new country, I wish to speed my country toward progress--cities, highways, automobiles," replied the president. "This I can grant you--but you must be prepared to sacrifice 50,000 of your citizens." "No," said the president, "your price is too high." "In America," responded the god, "they pay it every year."

The god was probably wrong. We kill off over 50,000 people a year all right, but it's more a game than a ritual massacre. In Russian roulette, you gamble your life that the live bullet isn't in the chamber. In American roulette you gamble your life that the live idiot isn't in your lane.

* * *

Some Faulty Logic--While we're on the highways, so to speak, one further bit. It's the reasoning that must take place in the heads of many drivers: "Visibility isn't as good as it should be--rain, dust, fog, etc. But my headlights don't help me see any better. So I won't use them." That's faulty logic. Even though lights may not help you see, they help you be seen. That's important. If you can be seen, you can be avoided. When it's bad out there, turn 'em on. And don't forget to dim --especially on a wet night. The glare from your brights could cost you your life.

* * *

Cop-out--"And is it my fault, if that's the way it is?"
--Machiavelli

*bh



DIXY LEE RAY, recently appointed AEC Commissioner, visited Sandia last week for briefings. She is shown with H.C. Donnelly, Manager of AEC/ALO, and President Hornbeck. The French subject enjoying the easy chair and the fuzzy one in the foreground (a Scottish deer hound) accompanied the Commissioner. They enjoyed the Tech Area tour too.

Events Calendar

Sept. 1-3 — "Fiddler On the Roof," Civic Light Opera, Popejoy Hall, 8:15 p.m., 277-3121.

Sept. 1-4 — Santa Fe Fiesta, Santa Fe, N.M.

Sept. 6 — ASUNM Lecture Series, Joseph Yablonski, United Mine Workers for Democracy; son of slain candidate for presidency, United Mine Workers, 8 p.m. Popejoy Hall.

Sept. 7 — ASUNM Lecture Series, Arthur Campa, specialist in Southwestern Hispanic Culture, 8 p.m., Keller Hall.

Sept. 7-8, 10, 14-17 — Old Town Studio, "Prime of Miss Jean Brodie," 8:05 p.m., 242-4602.

Sept. 8-10, 12-17 — Albuquerque Little Theater, "There's A Girl in My Soup," 8 p.m., 242-4750.

Sept. 9-24 — New Mexico State Fair.

Sept. 9-10 — N.M. Mt. Club, Bandelier — Family Back Pack. Call Hank Nelson by Sept. 5 for trip details.

Sept. 14-17 — Classics Theatre Company, "The Tempest," 8:15 p.m. (2:15 on Sept. 17), Popejoy Hall, 277-3121.

Supervisory Appointment



JO HANNA to supervisor of Secretarial Coordination, Section 4118-1, effective Sept. 1.

Since joining the Laboratories as a steno clerk in Aug. 1953, Jo has been a department secretary in Purchasing, served as the UK Coordinator in the Components and Systems

Organization 1000, was secretary to the Comptroller, 4100, and in 1965 was promoted to Executive Secretary to Vice President Campbell.

Before coming to Sandia, Jo was an engineering secretary for a large firm in Ohio. She has a business school certificate and has completed several non-credit courses at UNM. In 1960 Jo earned the rating of Certified Professional Secretary.

Jo and her 19-year-old daughter June live at 1177 Cardenas SE.

LAB NEWS

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john shunny is editor
&
don graham ass't. editor

bruce hawkinson writes
as does norma taylor while
bill lasker takes/makes pictures
&

in livermore lorena schneider does all

YWCA 'Fall Colors' Tour

The YWCA is sponsoring a two-day, chartered bus tour through northeastern New Mexico Oct. 7 and 8.

On Saturday, Oct. 7, the group will leave the YWCA at 8 a.m. for Santa Fe and stops at Nambe, Chimayo — to see the weavers at work and visit the Sanctuario — Ranchos de Taos, and then on to Taos for lunch and time for sightseeing and shopping. Leaving Taos, the tour will visit the high bridge over the Rio Grande Gorge and then on to spend the night at the Singing River Ranch. Sunday's itinerary includes Eagle Nest, Ute Park, Cimarron Canyon and the Palisades, Ft. Union National Monument, Storrie Lake State Park for a picnic lunch, Pecos National Monument, and Glorieta.

Cost to members is \$48, non-members \$50, and deadline for payment is Sept. 15. Tour costs include transportation, lodging, insurance, dinner and breakfast at Singing River Ranch, picnic lunch and entrance fees.

Variable Annuity Unit Value

September	1.747
August	1.757
Average 1971	1.628

Retired Sandian Invents Natural Gas Saving Device

Retirement means different things to different people — many just choose the “old rockin’ chair,” some enjoy fishing or gardening, others travel.

But Wil Williams, who retired in 1965 after working eight years in Sandia/Livermore’s plant maintenance organization, is literally “seeing a dream come true.”

A steam plant operator most of his adult life, Wil one night in his sleep came up with a theory for saving natural gas. That may sound farfetched, but now with a processing patent covering the idea, as well as patents for three models of a Gas Saver® unit, Wil has formed a company of which he is president.

Offices at Edgewater Drive in Oakland and a nearby shop for building prototypes serve as headquarters for the development and marketing of the Gas Saver. General manager of Wil’s enterprise is Les Rowe, another former Sandian, who was manager of Livermore’s Plant Services Department when he retired in 1970.

Basically, Wil’s invention involves blending the right ratio of compressed dry air with gas to improve the combustion efficiency; thus less gas is consumed, producing gas savings that run as high as 10 to 18 percent. Several factors influence savings such as condition of equipment, amount of humidity, and barometric pressure.

“At first the idea sounded crazy even to me,” claims Wil, who looks more like 55 than his 72 years. “So, just to prove it to myself, in my spare time starting about 1956, I began building a miniature model in my backyard. I still have that original little model in my shop. I kept trying, and every model I built was better.

“Later on, a retired engineer friend of mine worked with me. Since the two of us incorporated in June 1970, I have been making the plans and all of the drawings, while he builds the prototypes. In turn, the production units are manufactured by a Sacramento company under a five-year con-

Surface Studies Conference At Livermore Sept. 6-8

The fourth annual Conference on Surface Studies will be held at Livermore Sept. 6-8, co-hosted by Sandia/Livermore and Lawrence Livermore Laboratories.

Ron Musket (8313) and Carlos Colmenares (LLL) are local co-chairmen for the conference, with Dick Schwoebel (5331) of Sandia/Albuquerque serving as general chairman. Vice President Tom Cook (8000) will make the keynote address the first day of the conference.

The program covers a wide variety of surface-related research studies with sessions in such areas as thin film, surface analysis, surface flashover phenomena, hydrogen in metals and oxidation, and surface diagnostic techniques. Approximately 42 technical papers from the various AEC integrated contractor facilities will be presented.

Included in the conference is a panel discussion on “Techniques for Surface Composition Determinations,” as well as briefings and tours covering programs of principal importance at SLL and LLL. Guest speaker Prof. G. Somorjai of the University of California at Berkeley will discuss surface chemistry.

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INVENTOR WIL WILLIAMS, left, and his company’s general manager Les Rowe, both Sandia/Livermore retirees, display the industrial and commercial models of Wil’s invention for saving natural gas.

tract. Putting up my own factory and training personnel to get into mass production would just be too costly. I have distributors across the country — in every state except for a few which are small gas fuel users.

“Last year, I had my patents protected in foreign countries. When we sell distributorships to these countries, we will include the patent rights for manufacturing, as long as they agree not to ship to the United States.”

Will spends about half of his time with technical men from all over. “They can see the gages on the unit,” he says, “but find what they see hard to believe. Generally, these men are not interested in how much it saves, rather in how it works. The gas companies, who are big gas users, have shown a great deal of interest. In fact, several have been participating in some of our tests.”

Les says the unit can be applied anywhere a user’s gas cost is high. “I can’t envision any place where it wouldn’t work. Probably the breaking point is the cost of the unit versus the amount of gas, thus money, it would save. Although gas is the cleanest burning fuel available, tests we’ve been running show some pollutants going into the atmosphere are diminished about five percent when the Gas Saver is used.”

So far, nine of the units have actually been installed throughout the country. One of these is at an Albuquerque company where gas is used in drying bricks. Another is at an Albuquerque mobile home park. “Even the housewives there have noticed a difference,” notes Les. “They say their kitchen pots no longer get black on the bottom and their decorator gas lamps, as well as the some 300 gas street lights, burn brighter and cleaner.

“The difference between the commercial unit which measures approximately 32 by 43 inches and the slightly larger industrial unit is primarily in the mixing chamber,” he continues. “In the commercial unit where the gas flow is up to 6000 cubic feet per hour, there are no moving parts — baffles are used — whereas, in the industrial unit where the gas flow is up to 12,000 cu. ft./hr., a motor moves the gas rapidly. Thus far, we have been involved only in commercial or industrial application. The home unit which must be inexpensive enough to make it feasible for the individual homeowner to buy is on the drawing boards now.”

When asked about what the rewards have been for his invention, Wil comments that “there’s a tremendous amount of satisfaction in taking an idea in your mind and transforming it into something tangible that will conserve a source of energy which is in short supply and, in addition, reduce the amount of pollutants discharged into the atmosphere.”

•ls

Les Romp, a technical staff assistant in Electrical Subsystems Division 8155, died suddenly Aug. 10. He was 54.

He joined Sandia Laboratories in May 1952 and transferred to Livermore in January 1960.

Death



A Basically Accurate Version of the Bloodless Reconquest That the Santa Fe Fiesta Celebrates

Diego de Vargas Zapata y Luján Ponce de León was the name by which his mother knew him; though she probably shortened it when she called him to supper in Madrid. We know him simply as de Vargas. If you attend the Fiesta in Santa Fe this weekend you'll hear his name often — and reverently. For it's the heroic de Vargas who headed the bloodless reconquest of Santa Fe and the New Mexico territory in 1692.

The whole story isn't all that bloodless — see below — or heroic. De Vargas greeted the 18th Century from a jail cell where he reposed on trumped-up charges of causing a famine and embezzling royal funds.

If there was a reconquest, there had to be a conquest. There was, and it was not exactly bloodless. Launched by Coronado of the gilded armor and the lousy luck, it was followed by Oñate, who pacified and converted the pueblo Indians, not always by force, and who (in 1598) founded the first Spanish colony in New Mexico. In 1610 the colony started the town of Santa Fe.

In the next 70 years the Indians learned a great deal. They learned that the joys of being loyal subjects of the King of Spain were offset by the tributes they were to render. They learned that the blessings of being members of an organized religion were offset by the labor they were to donate. They also learned that failure to pay tribute or labor made them guilty of treason or subject to excommunication. And the dangers of being either traitor or apostate were vividly demonstrated, generally in blood-red hues.

The medicine men, who were keeping alive the outlawed pagan ceremonies and dances, were having some difficulty keeping alive themselves. They were labeled sorcerers; at the time that label was not associated with longevity. One of these medicine men/sorcerers, name of Popé, instigated the pueblo rebellion of 1680. Simultaneous overthrow of the Spanish by all the pueblos was the name of the game; secrecy was the playing field. Though word of the plot leaked out, the coup worked, and very soon the Indians (except those of Isleta who didn't join the uprising) watched the remaining Spaniards (this was not a bloodless rebellion) trudge southward toward the safety of El Paso.

The Spaniards nursed their wounds, gathered their courage, and fed their resentment against the treasonous, church-desecrating savages. The time was ripe for retaliatory action. The fact that no massacre occurred is a credit to de Vargas. In 1692 he and 200 or so soldiers and loyal Indians marched up the Rio Grande past deserted pueblos and burned churches to Santa Fe, now the home of the Tano Indians, lately of Galisteo. They arrived at the city's walls late at night and the peaceful reconquest began.

Various sources differ as to the exact details, but the scenario went something like this: the Spanish troop shouts the Gloria five times in unison. (The walls, unlike those of

Jericho, still stand.) Sleepy Indians gather on walls saying things like "Who comes here at this indecent hour?" The Spanish say, "The Spanish." The Indians reply "If you're Spanish, why haven't you shot at us?" (Their logic is impeccable.) "Because we're Catholics," comes the somewhat equivocal answer. "If you're really Spanish and not Apaches, fire a gun into the air." They did. "Give a bugle call." They did — and added drums for good measure. The little performance could have gone on all night. In fact it did. It wasn't that the Indians didn't know who was out there; they can see in the dark better than that. It was simply that they were busy filling any openings in the walls. When they couldn't think of anything else to ask the Spanish to do, they began shouting themselves — probably not the Gloria — to cover up the sound of their fortifying.

At dawn the Indians couldn't pretend any longer that they didn't know who was there. De Vargas began his entreaties: "You'll receive a general pardon if you surrender peacefully." "That's what you Spanish told a band of Apaches just before they were massacred," replied the Indians. "But Apaches are your enemies as well as ours, so that doesn't count," responded de Vargas with another great leap over the barriers of logic. "Why are you here?" asked the Indians. "To claim the lands which are rightfully ours," responded de Vargas, setting a new leap record.

Then de Vargas raised his banner of the Virgin and urged the Indians to prevent his shedding their blood. The Indians began applying war paint. De Vargas began applying pressure. He had his soldiers divert the channel which brought water into the town. Then he commanded that two cannon be brought to bear on the village. And finally he said, "You have one hour to decide."

The Indians saw the handwriting on the wall — most of it concentrated at a spot directly in front of the cannon. They were also aware that Popé and his captains had ruled them as cruelly as had the Spanish and had provided even less protection from Apaches and Navajos. So they surrendered. But first they asked for and received assurances that they would not be compelled to rebuild the churches and houses and would not "be whipped if they refused, as they had been before."

The formal surrender came the next day when de Vargas in court dress entered the gate (the famous *entrada*) and led the lengthy formality of taking possession of the city and the province with all its pueblos and peoples. Lengthy secular formality was followed by lengthy sacred formality which brought the Indians back into the Church. And then it was done and the bloodless reconquest was accomplished.

Or nearly so. There remained only the visits to each pueblo to receive formal submission. Only the Hopis resisted — perhaps they didn't understand how it was that a few sleepy Tanos could submit to them to the Spanish. But one fiery denunciation from de Vargas and they said "OK, OK, we submit too."

On the way back to Santa Fe, de Vargas paused at Inscription Rock and wrote: "Here was General Don Diego de Vargas who conquered for our Holy Faith and for the Royal Crown all of the New Mexico, at his own expense, year of 1692." Unfortunately generals no longer underwrite their foreign adventures.



ZOZOBRA, or Old Man Gloom, (sketch by Jim Walston, 3155), is burned during opening ceremonies for the Santa Fe Fiesta Sept. 1.

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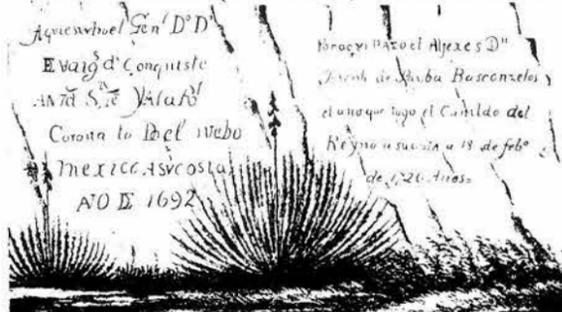
The 260th Santa Fe Fiesta will again commemorate de Vargas and his exploits. Major Friday, Sept. 1, events include: Crowning of the Queen at 7:30 p.m.; Burning of Zozobra (or Old Man Gloom) at 9 p.m. Saturday: Children's Costume and Pet Parade at 10 a.m.; Grand Ball at 9 p.m. Sunday: Solemn Procession at 9:30 a.m.; Solemn Mariachi Mass at 10 a.m.; Entrada of de Vargas at 1:30 p.m.; Vespers and Mass at 7 p.m. Monday: General Fiesta Parade at 3 p.m. Each day: street dancing, arts and crafts booths, Indian dances, Fiesta melodrama "The Dastardly Design of the Devious Developer" (at 10 on Friday, 7 and 10 on Saturday, 8:30 on Sunday and Monday), and continuous entertainment on the Plaza. •bh

Sandians at Pantex Support United Way

The 23 Sandians of Stockpile Systems Test Laboratory Division 7431 at Pantex wrapped up their annual drive for the United Way of Amarillo last week with an outstanding record. All 23 employees of the division (one man is still on military leave) contributed to the drive — 78 percent at Fair Share level.

A total of \$1725 was pledged to the United Way, an average gift of \$75.

Kurt Unnasch was chairman of the Sandia effort.



De Vargas was here.

Hank Guttmann Involved In Cable TV Squabble



Hank Guttmann is a human factors specialist in Reliability Analysis Department 1640. As a professional, knowledgeable about human nature, Hank is more often than not amused by the activities of politicians, government and bureaucracy. Live and let live, Hank says. Vote, pay your taxes, write the congressman occasionally.

Recently, however, Hank became upset enough to enter a community-wide squabble about cable television. He was approached in a shopping center to sign a petition "for cable TV."

"So I read it," Hank says. "The petition was not for cable TV, it was exactly the opposite. It was asking for a referendum vote — a city election. I can't see this. You don't vote on whether or not a new business comes to town. Anyway I figured a lot of people didn't understand the petition. Human factors, you know."

Hank helped organize a committee that wrote to all the petition signers (some 10,000 of them) asking them to reconsider, send a card to the City Clerk to remove their names from the document.

"All of a sudden I'm in politics," Hank says, "and I don't even watch that much TV. The set has been on the blink for three months."

Take Note

Books of all kinds, on all topics and in all shapes are for sale during the lunch hour in the elevator foyer of Bldg. 802. Prices start at 25 cents and don't end very far from there. Proceeds go to the South Highway 14 (nee 10) Christmas Fund. Spend your lunch money on books. You can get smart, lose weight, and help a cause.

Sympathy

To Larry Williams (7113) on the death of his father in Kansas City, Aug. 15.

To Andy Johnson (1590) on the death of his mother in Jackson, Miss.

To Jose Montoya (4623) on the death of his brother in Albuquerque, Aug. 14.

To Solomon Baca (4614) on the death of his father, Aug. 4.

To Don Hesselbarth (4610) on the death of his mother-in-law in Wichita, Kans., Aug. 20.

Retiring



James Palmer (7512)



Burl Alsop (4514)



BERNIE VALLEJOS (7545) — "We were a bunch of tough guys."

Martineztown of the UCF

We Tossed the First Story and Pix

Martineztown House of Neighborly Service is one of the oldest agencies of the Albuquerque United Community Fund, having provided recreational programs for residents of the Martineztown area since 1922.

Last week, we visited the center on North Edith Blvd. and saw lots of kids busy playing basketball, football, handball, and other sports, and stringing beads or working in other crafts. A lot of noise, a lot of groups. Inside, about 50 oldtimers were having a birthday luncheon for an honored member of the group. There was hearty singing accompanied by a swinging accordion, and the potluck spread prepared by the ladies of the neighborhood was plentiful and smelled great. We took some photos of people having a good time. Bernie Vallejos of the Photo Lab, org. 7545-1, processed them for us.

"Hey, man," he said when we picked up the proofs, "you visited my old neighborhood. I grew up there. The center was home away from home. Spent every evening there, played a million games of basketball."

"There was no place else to go," Bernie continued, "the guys would all meet there after school and we'd play basketball until dark. Used to have dances there, too, in the evenings and, you know, we'd stand around embarrassed and try to get up enough nerve to dance with the girls."

"The counselors — cool guys from the University — would get things organized, mix it up. They would referee the games on the playground and talk to us. Really great guys, someone to look up to. They would help us organize clubs and run projects to make money to buy soft drinks for the dances."

"We were a bunch of tough guys — me, my brother, Oliveras, the others — had a few fights with the boys from Barelmas. The University cats at the center straightened us out. We didn't do that anymore. Learned a few other things too — rules, man, rules. And everybody gets along, works together, room for everybody and everybody feels good."

"Yeah, man, that's a good place. It's come a long way since I grew up. New playground, another building, tools to work with, lots of things. UCF money made it possible. That's one reason I'm a Fair Share giver here at Sandia. I know the money helps kids like I was grow up — you know, good job now, nice house, kids thinking about the University. Things like that."

"Thanks, Bernie," we said. "Don't think we'll use these pictures."

"Why not?" Bernie asks, "these are great faces."

"Need a shot of you, Bernie."

"Why me, for crying out loud?"

"You are a testimonial. The very best kind." • dg

Indian Pueblo Events

Many harvest and social dances are held at the Pueblos during September. The following list of events may not be complete and is subject to change by the concerned Pueblos. Activities usually begin about mid-morning and continue until sunset. Generally, photographs, sketches and tape recordings of Pueblo ceremonials are strictly forbidden.

Sept. 2 — Harvest Dance, St. Stephen's Day Fiesta, Acoma

Sept. 4 — Harvest Dance, St. Augustine's Day Celebration, Isleta

Sept. 8 — Corn Dance, St. Augustine's Day, San Ildefonso

Sept. 8 — Harvest and Social Dances, Encinal Village, Laguna

Sept. 14-15 — Jicarilla Apache Annual Fiesta, Horse or Stone Lake

Sept. 19 — Harvest Dance, St. Joseph's Fiesta, Old Laguna Village

Sept. 25 — Harvest and Social Dances, St. Elizabeth's Day Celebration, Laguna

Sept. 29 — Sundown and other dances, begin at sunset, Taos

Sept. 30 — War Dances, pole climbing, foot races and clown antics, Taos.

Pantex Has A Corner Of Sandia

Amarillo, Texas. This prairie town, only a few hundred miles east of Albuquerque, might be on the far side of the hemisphere in terms of the differences between the two cities. Some two dozen Sandians call Amarillo home, and we talked with them recently at their test lab at Pantex.

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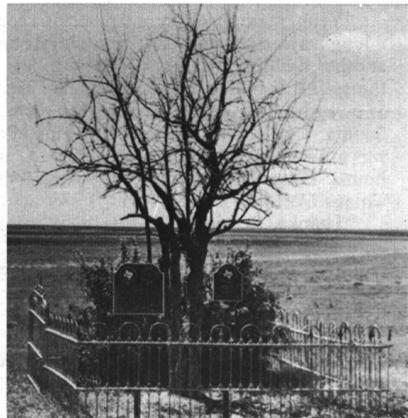
Not far from Pantex, within a wrought iron enclosure, a small dead tree is celebrated by an historic marker: "First Tree, Texas High Plains, Set Front Dugout Home by Thomas Cree 1888. Good Luck Symbol of Settlers Through Drouth Blizzard and Heat." The sky is limitless, the plain is green, undulating, sort of breathtaking in its extent, and you wonder how Thomas Cree stopped one day and decided to build his dugout home here in what is a featureless world. The feel of the place is whatever is the medical opposite of claustrophobia.

Pantex is an ordnance plant, or, rather, a nuclear ordnance plant that occupies several thousand acres of these plains, and you come upon its assemblage of low-lying unremarkable structures some 20 miles out of town. From Highway 60 you might be looking at an agriculture experimental station.

Close up the principal structures of interest look like earthen mounds, perhaps two stories high, covered with silvery roofing paper. Bill Sherman, head of Sandia's Stockpile Systems Test Lab (7431) at Pantex, identifies these as "Gravel Gerties," wherein nuclear material and high explosive are mated. "The roof consists of quite a few feet of gravel supported on a heavy wire mesh," explains Bill. "In case of an explosion the roof would rise a bit, then settle back and contain all the plutonium. It works — they set one up out at NTS and tried it out."

Sandia occupies a largish building of its own, style contemporary Butler. Within, one might be walking through any lab in the Tech Area: rack upon rack of electronic equipment, a computer, weapon cases, weapon components, and people preoccupied with their tasks. The people are a geographic mix — some from Albuquerque, some from former weapons installations at San Antonio, Texas and Clarksville, Tenn., some home-grown. There is only one woman, Dorothy Marklin, who works as a technician.

The work they do derives from a simple premise. This country has a huge stockpile of nuclear weapons. If need be, will the weapons perform as intended? You can come up with theoretical statements, but greater confidence in predictions of performance has to be based upon the results of tests on actual weapons



A tree is a big thing here.



Texas High Plains: miles and miles of miles and miles.



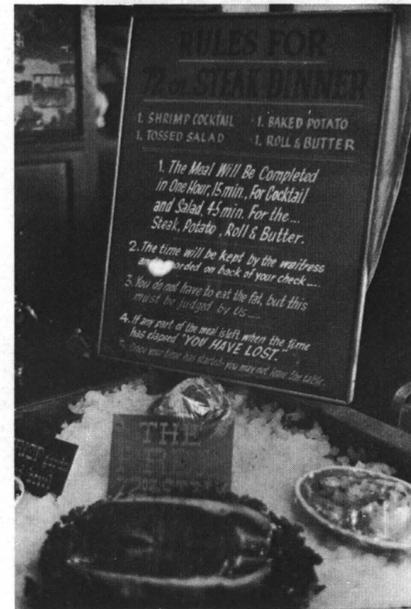
The Sandia crew at Pantex.

and their components. In brief, then, the Test Lab group withdraws randomly selected nuclear weapons from the stockpile and from new production, has them dismantled within Pantex, and runs a battery of sophisticated tests upon the various parts and systems.

One test will illustrate. Some weapons use parachutes to retard their fall. The chutes are huge affairs and they are packed, rock-hard, into a fabric sleeve which is then inserted in the tail of the weapon. When the weapon drops away from the aircraft an explosive charge is detonated to get the chute to deploy. To gain test data on parachute deployment, Test Lab people insert the tail end of the weapon into a large version of a padded cell, set up their Fastax cameras, close the doors, and push the button. If all goes well, a boom occurs presently, followed by billowing folds of parachute. Test completed.

* * *

Return to Amarillo. Dinner at a steak house where the help wear mini-skirts, holstered six shooters, cowboy boots and cowboy hats, and the restaurant challenges the customer: eat their 72-ounce steak within an hour and you get it for free. The sample 72-ouncer on display served to intimidate. Had any customer ever successfully met the challenge? The young lady eyed me wonderingly. "Why sure — 345 of 'em." Texans have a predilection for the heroic. ♦js



Steak is free. But you have to finish it in an hour.

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SEPTEMBER 1, 1972



Recreation Notes

FUN & GAMES

This season's Sandia Flag Football League has been organized and play begins this month. The league consists of four teams from Sandia Labs and one team fielded by AEC. If you are interested in playing flag football contact Art Trujillo (5645), league president, or any of the following football board members: Gary Reif (1912), Terry Otero (7134), Buddy Sanchez (5411), or Preston Herrington (9226).

* * * *

"The Swingers," competing with seven teams in the Sandia Labs Slow Pitch League, recently won the league and tournament championships. Managed by Dewey Berry (7611), team members are: Joe Santana, Kevin Lynch, Randy Pozelle, Max Ortiz, Bob Varga (all 7651); Larry Grube (7615), Ron Haid (7613), Dave Renninger (7624), George Kolesar and John Stanalonis (both 7614), Jim Clark (9331), Dick McAvo (9323), Joe Saya (7421), Rick Blose (7654), Ken Varga (7612) and Russell Parmley (7611).

* * * *

The Sandia Women's Golf Association played a Par 3 Championship Tournament at Los Altos on Aug. 12 and 19. Winners in the first flight were: Molly Ellis (5643), low gross, Betty Chappell (AEC/ALO), low gross runner-up; and Clara Gearhart (3141), low net. Second flight winners were: Doris Willard (4152), low gross; Liz Bookwalter (7631), low gross runner-up. Low net honors went to Connie Anderson (7111) in a sudden-death playoff with Hazel Minter (7100).

* * * *

The Sandia Labs 1972 Horseshoe Tournament was recently completed. In three divisions a play-off was held to determine the runner-up. Results were:

- Singles
Class A
Winner Leo Bressan (7452)
Runner-up John Hiller (1825)
—play-off with Bill Sweatman(7113)

- Class B
Winner Dan Padilla (9217)
Runner-up Ernie Mares (7145)
—play-off with Lyle Kruse (5232)

- Class C
Winner Bob Evans (7433)
Runner-up Wayne Sly (7652)
Doubles
Winning Team

- Bill Sweatman (7113) and Bob Schuch (5226)
Joe Brooks (9463)
Ernie Mares (7145) and Earl Saxton (9312)
—second and third place determined by play-off.

* * * *

Bernie Tiefa (5421) reports that the Sandia Labs Chess Club is alive and well, having been organized last month and numbering some 40 members. Club meetings are scheduled Sept. 11 and 12, downstairs at the Coronado Club, starting at 7:30 p.m. and, beginning in October, the first and third Monday of every month. Primary activity at the meetings is chess play, and the club plans a chess ladder to promote contests among persons of roughly equal skill. Tournaments, instruction using a demonstration board, and a newsletter are also offered. Interested? Call Bernie or other Board members Warren Miller (9425) and John Vogel (1751) for information on joining. (PS. Liberated females welcome — there's at least one on the membership roster already.) ♦Norma

Supremes Concert Offered at KAFB

The Supremes will appear in concert at KAFB on Sept. 15 at 7 pm. Appearing with the musical group will be the comedy team of Skiles and Henderson. The two-hour performance will be held in Hangar 481, Kirtland West. Tickets are \$3.50 and may be purchased at the Officers Club, NCO Club, Mecca Club, Bowling Alley, Auto Hobby Shop and the Library.

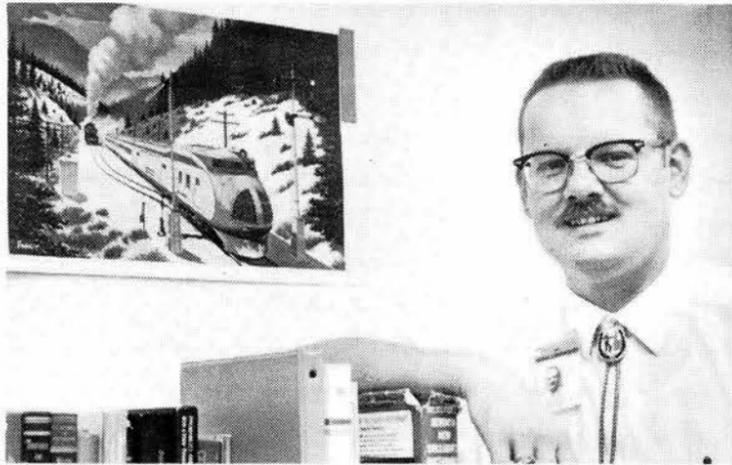
KAFB Special Services has arranged the concert and hopes to schedule more such events in the future.



BOB PRIM, executive director, Bell Telephone Laboratories and former Sandia VP of research, visited the Laboratories last week for technical briefings. He talks with Max Newsom, supervisor of Exploratory Systems Design Division 1534.



Lloyd Myers — 8412 20



Curtis Mueller — 7425 10

MILEPOSTS

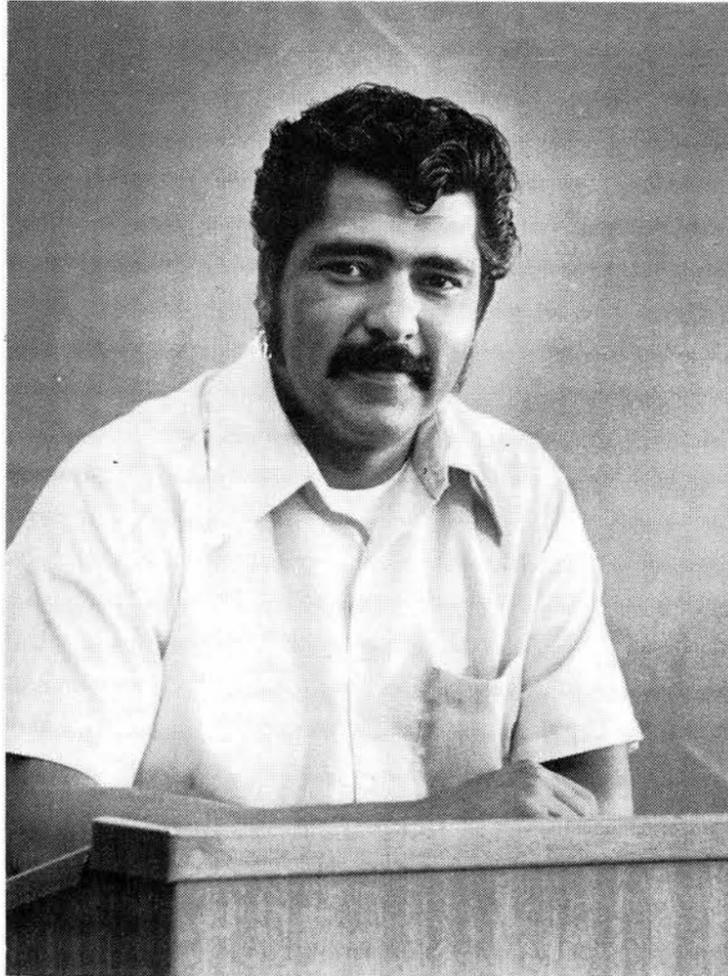
LAB NEWS September 1972



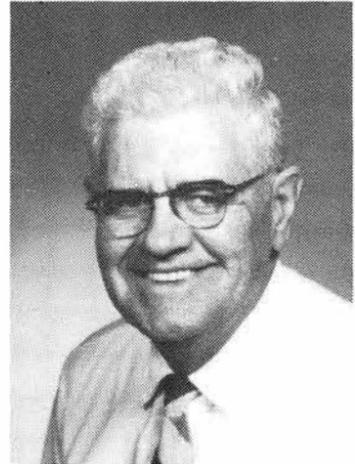
Justine Bassett — 7450 15



Jack Scheerer — 7611 15



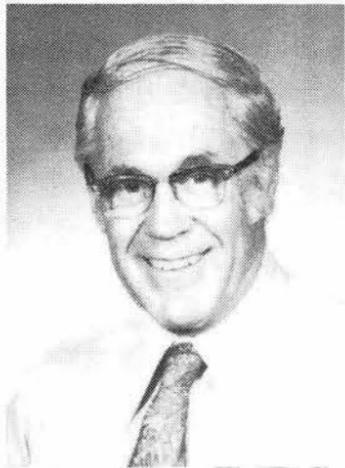
Gil Padilla — 3132 10



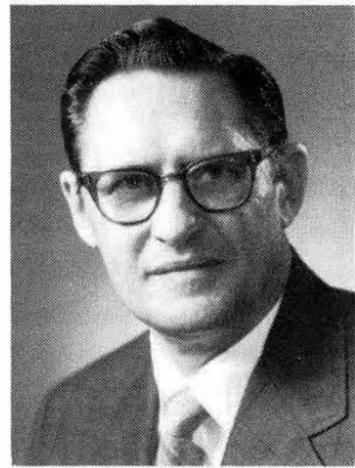
D. R. Metheny — 4515 15



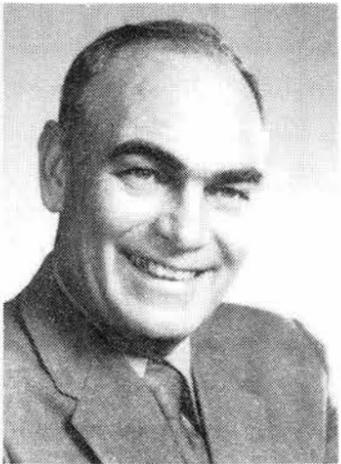
G. C. Hartman — 7651 20



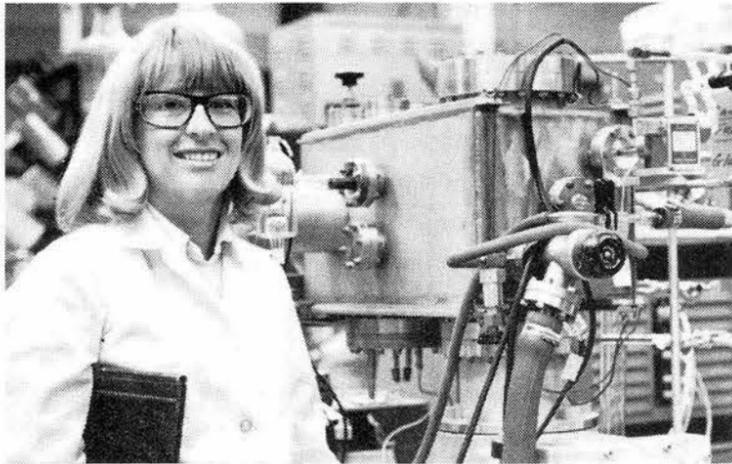
Clair Abraham — 1734 15



Gordon Miller — 8321 20



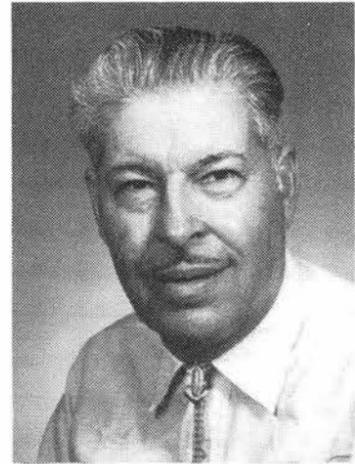
Lee Graves — 8423 10



Patricia Neiswander — 5154 10



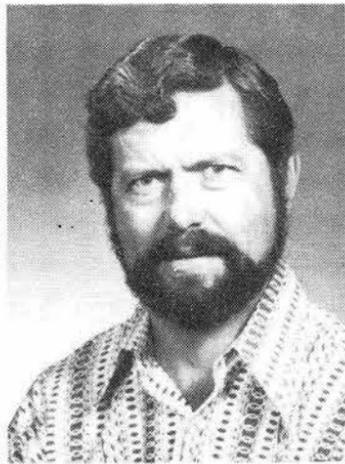
Kenneth Flynn — 1513 15



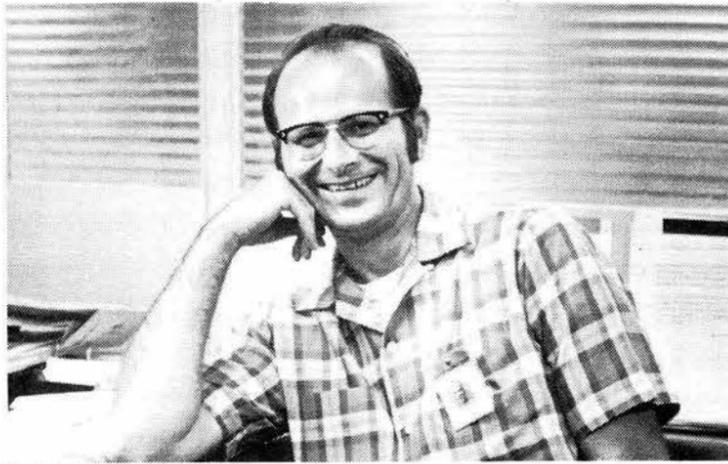
Frank Baros — 7141 10



Robert Nelson — 1434 20



Robert Mikkelsen — 9425 15



Bob Isidoro — 7423 15



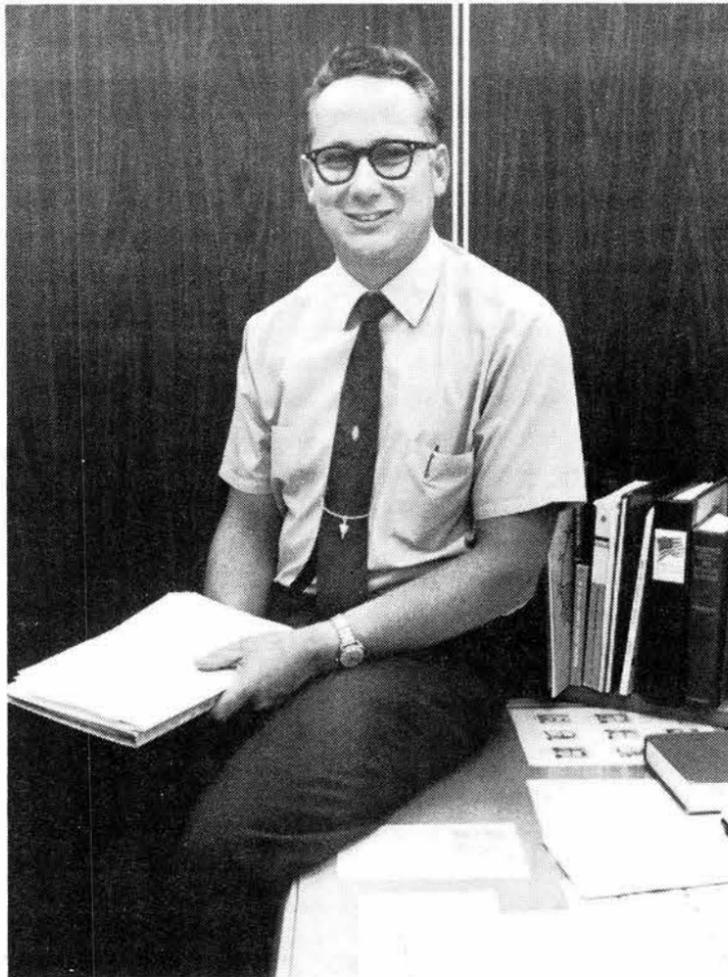
Robert Heck — 7512 20



Bob Frost — 8164 15



Roger Tate — 5645 15



Harold Crass — 3521 10



Lyle Dillingham — 9310 20



Maurice Karnowsky — 5531 20



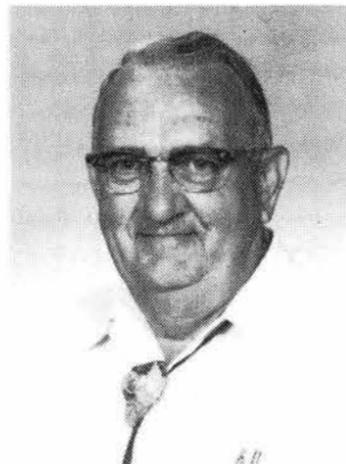
Willie McCabe — 1931 15



Bud Newman — 1613 20



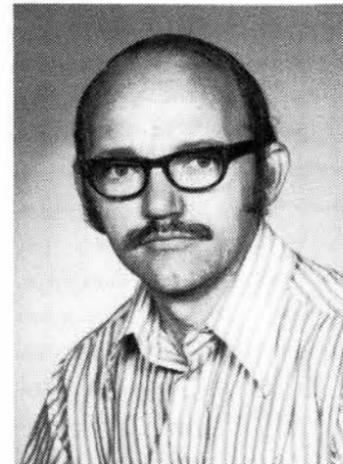
Ken Byrne — 8164 15



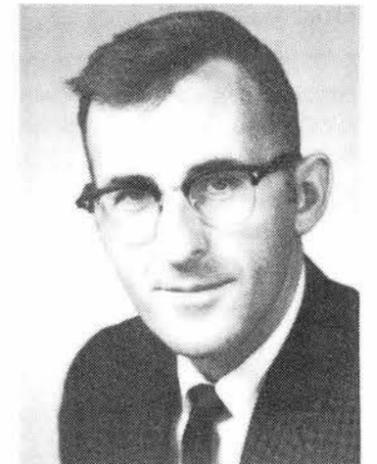
Aaron Lawrence — 7451 20



Dan Garst — 1742 15



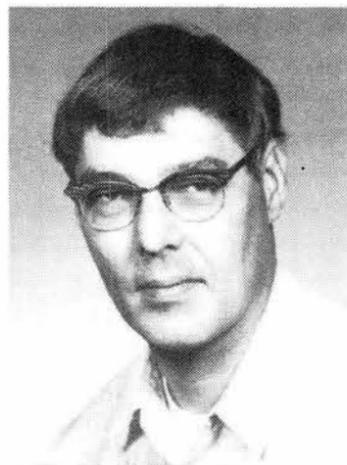
Eyrle Carriere — 9484 10



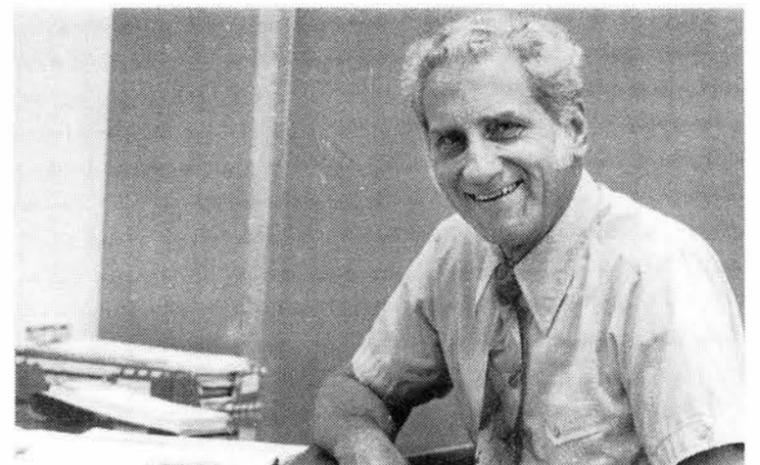
Charles DeCarli — 8139 10



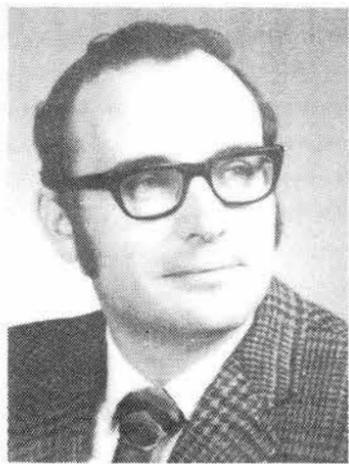
George Randle — 9133 20



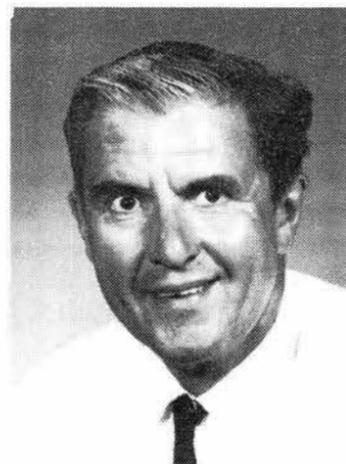
M. N. Cravens — 9230 15



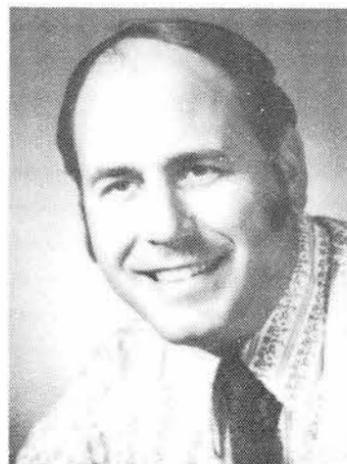
Gene Helz — 8434 20



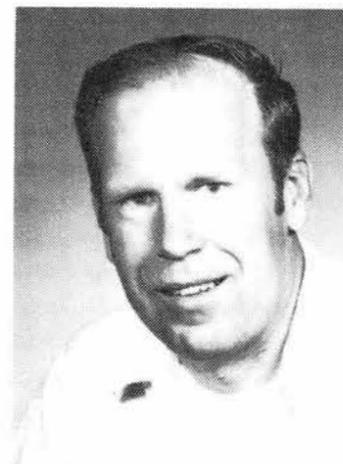
Jack Wirth — 8340 10



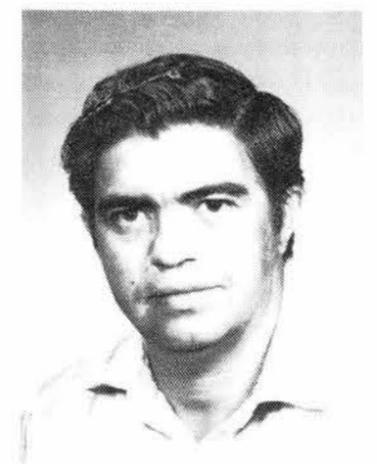
Howard Cilke — 5421 15



Roger Everett — 8351 10



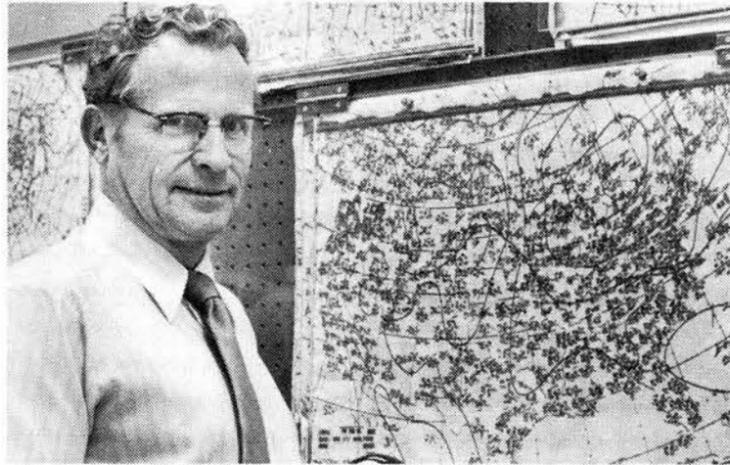
Ken Prestwich — 5245 10



Paul Martinez — 1812 15



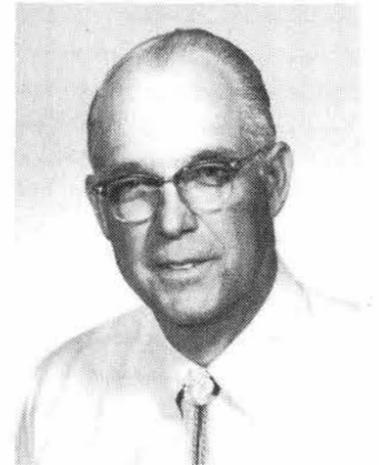
Herbert Parsons — 1526 15



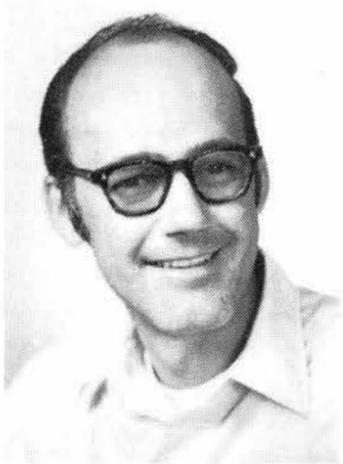
Cliff Olson — 9311 15



Mary Bordenave — 7411 10



Gene Nielsen — 4117 20



Otto Schreiber — 8139 15



LeRoy Cole — 9311 20



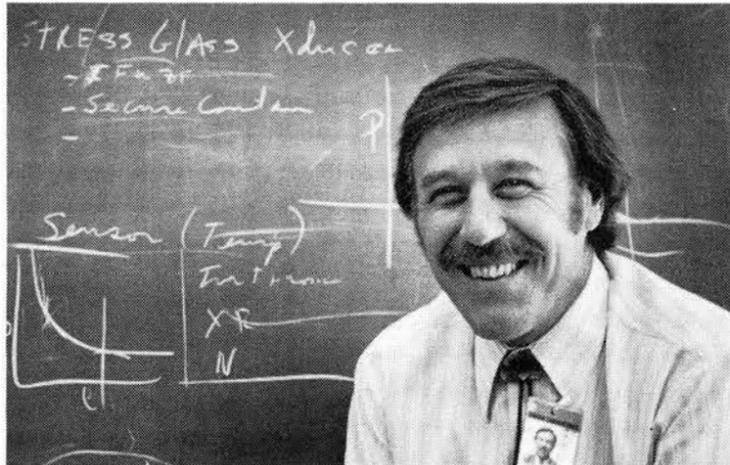
Don Wader — 7131 25



Bob Donohoe — 9124 15



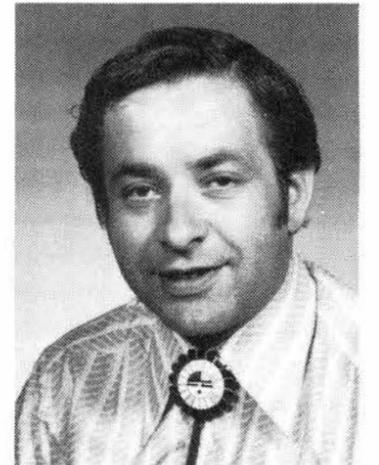
Louise Martinez — 3256 15



John Marron — 1314 20



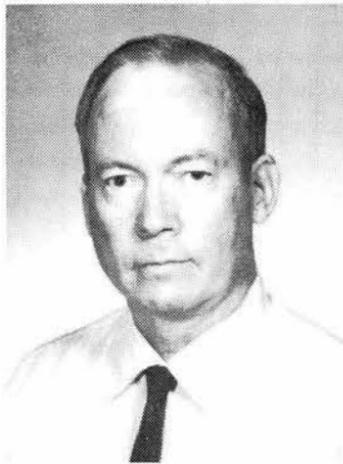
Leslie Osmond — 9217 10



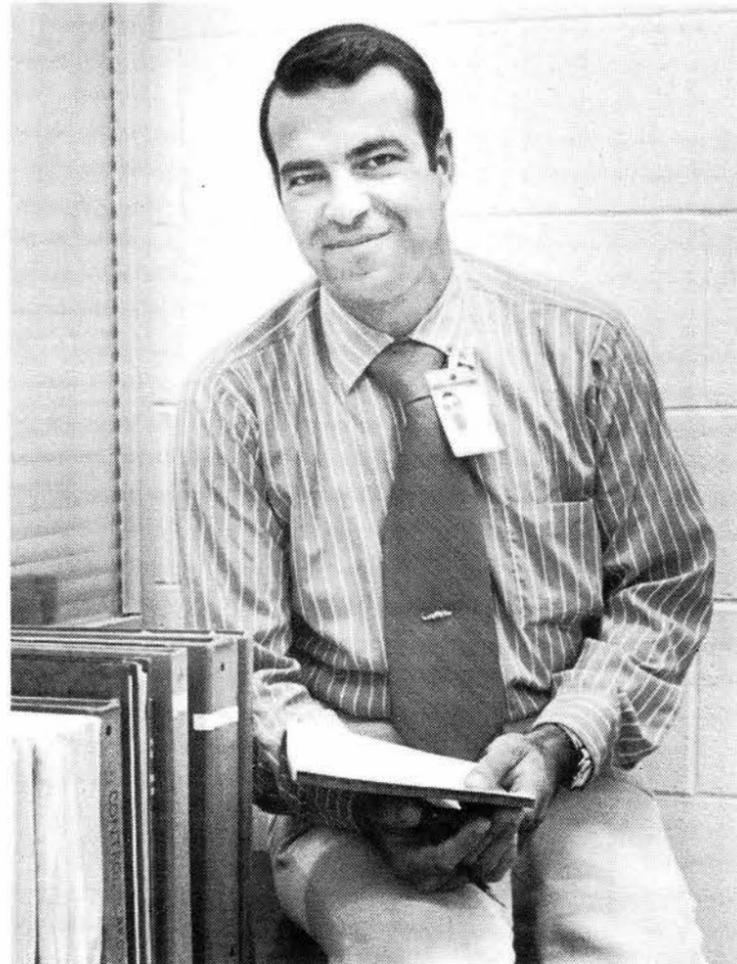
K. J. Touryan — 5640 10



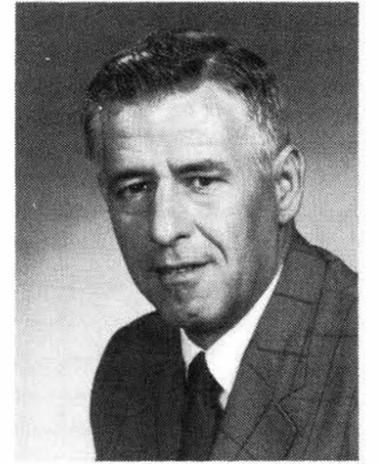
Don Adolphson — 8312 15



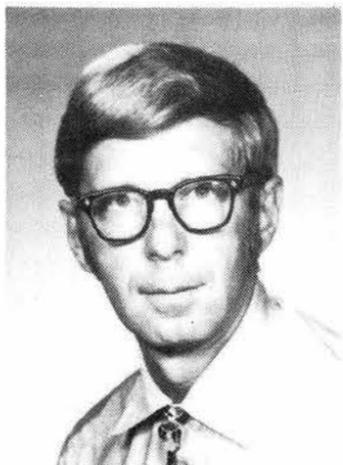
Charles Scott — 1909 20



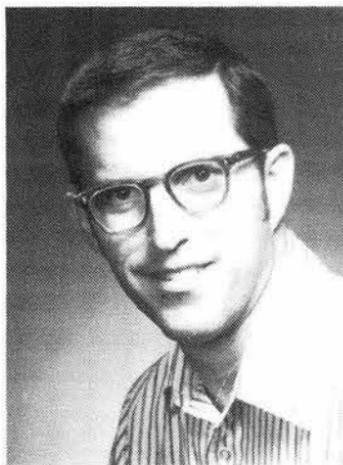
George Kupper — 4311 10



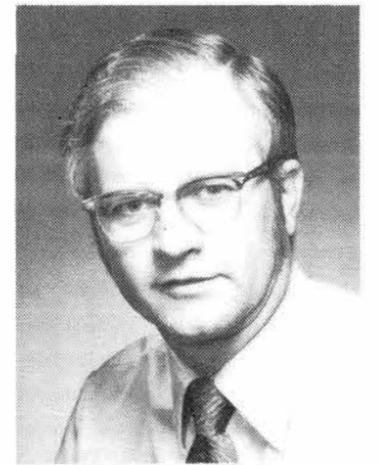
Duane Randall — 5624 15



John Geohegan — 1324 15



Ken Kimball — 9123 10



Eldon Julius — 9334 15

Speakers Abroad

W.S. Saric (5643), "Stability of Liquid Films Interacting with Supersonic Streams: Theory and Experiment," 13th International Congress of Applied Mechanics, Aug. 21-26, Moscow, Russia.

B. Morosin (5132), "Structural Studies on Some

Oxide Materials," Mineralogical Institute of the University of Tokyo, Aug. 23, Tokyo, Japan.

B. Morosin (5132) and R.W. Lynch (5323), "High Temperature Single Crystal X-Ray Diffraction Furnace and Some Results"; E.J. Graeber (5525) and B. Morosin, "On The Crystal Structures of Hexanitroazobenzene"; B. Morosin, R.R. Bartkowski (5132), P.S. Peercy (5152) and G.A. Samara (5130), "Phase Transitions in Linear Chain Compounds," International Union of Crystallography, 9th General Assembly and International Congress, Aug. 26-Sept. 7, Kyoto, Japan.

J.T. Grisson (1412), "Anode Temperature and Ion

Energy Distributions During a Vacuum Arc Discharge," 5th International Symposium on Discharges and Electrical Insulation in Vacuum, Aug. 31-Sept. 1, Posnan, Poland.

K.W. Schuler (5163) and J.W. Nunziato (5131), "The Dynamic Mechanical Behavior of Polymethyl Methacrylate," 6th International Congress on Rheology, Sept. 4-8, Lyon, France.

G.P. Steck (1723), "Estimation of Acceleration and Ageing Functions," NATO Advisory Panel on Operational Research, Sept. 4-8, The Hague, Netherlands.

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

FOR SALE MISCELLANEOUS

12 X 15 all wood cloth braided rug, brown tone. Grant, 255-6105.

ANTIQUA Steinway upright, appraised at \$1,000, sell for \$800. Quigley, 299-3178.

BICYCLES: boy's & girl's w/high rise handlebars, banana seat, \$10 ea. Barth, 299-2668.

12' SEA KING alum boat; trailer; extras; 5 hp motor; boat cover; 7x7 tent; 2 cots, air mattresses w/pump; Coleman heater, life vests. Kutzley, 217 Cardenas NE, 255-3572.

36 1st dubs of American Airline Commercial tapes, 1800 ft. reels — 3 hrs. each. 3 ea.; '65 Mustang Spinner hub caps. Wright, 298-1789.

POODLE PUPPIES, \$25; trumpet, below appraisal, \$125. Dye, 299-6348.

SELMER Paris trumpet w/radial valves, used 1 school year, \$300. Schmierer, 299-2352.

NORGE refrig.; 12x15 shag rug; dinette; hand painted pictures; wood carvings; appliances, some items never used. Renker, 296-3048.

GROVES 47# Prestige Magnum bow, 1 doz. hunting arrows; quiet quiver; arm & finger guard, all \$90. Gonzales, 242-6264.

GERBILS, 75 cents each; gerbil cage. Mills, 299-2130.

GAS HEATER, 80,000 BTU, round, ceiling mount, \$40; range hood, new, 30", harvest gold color, \$25. Courtin, 298-6934.

DELUXE TRAILER STEPS w/banisters & rails, wrought iron, \$35 or best offer. Rose, 298-4849.

GIRL'S blue bicycle, 26", \$10. Jennings, 255-5950.

15,000 lb. Tulsa winch, hydraulic drive, power take-off & motor included, \$175. Flowers, 282-3458.

BEDROOM SUITE, limed oak finish, full size, bookcase headboard, footboard, 9-dwr. dresser, full mirror, night stand, foam mattress, box spring. Fisher, 298-0526.

ELEC. LAWN edger-trimmer, \$10; 30" lawn spreader, \$5; 18" reel mower, gasoline engine, self-propelled, \$15. Burbank, 299-1460.

B-FLAT student clarinet w/case, \$65. Schuster, 255-5970.

FENCE POSTS & barb wire, used; blue roan Appy stud, broke, lots of color. Miera, 867-2655.

FREE, need home for kitten who will otherwise go to the animal shelter. Cooper, 268-0992.

SCHWINN girl's 26" bike, \$35; older Schwinn, girl's 20" bike, \$15. Johnson, 299-8745.

DR. ELIOT'S 5' shelf, 51 vols.; Harvard Classics Shelf of Fiction, 20 vols., out of print. Sylvester, 255-4388.

PUREBRED AFGHAN hound puppies. Zimmerman, 296-1058.

SHOP MANUAL for '66 Continental, \$6.95. Baxter, 344-7601.

SCHWINN woman's 26" 3-spd. bike, hand grip brakes, puncture-proof tubes, low mileage, \$35. Browning, 268-8260.

71 YAMAHA 200cc w/windshield & helmet. Griego, 345-1524.

K&E SLIDE RULE, 12", log log, \$10. Campbell, 255-9659.

ENGLISH RIDING-JUMPING hunt cap (hard hat), black velvet, size 7 Equestrian brand, separate waterproof cover, \$10. Illing, 867-2837.

TRUMPET, Olds Ambassador, w/stand & case, \$95. Anderson, 299-5447.

14' LONESTAR fishing boat, alum., w/choice of motor. Cook, 9409 Haines NE, 296-0459.

SEARS 6" jointer, w/stand & motor, \$210; Sears bench belt & disc sander w/stand, \$95; Sears grinder, w/stand, \$75. Kjeldgaard, 296-2212.

JEEP WINCH, PTO, bumper, \$150; transfer case, newly overhauled, all new gears (invoice available), \$100, three 16" wheels. Johnston, 282-5789.

BLUE Sears 5-spd. spyder bike w/acces., \$60. Rogers, 256-0066.

SCHWINN bicycle, sting-ray, 3-spd., \$50; typewriter, Smith Corona, 14" carriage, \$35. Carmody, 255-4459.

'71 YAMAHA DTI Enduro w/extras, \$650; '70 SL175 Honda, \$450. Clickner, 294-6983.

2 AIR CONDITIONERS, window type, 5500 & 10,500 BTU, \$100 and \$125. Pinkerton, 255-2505.

35MM slide projector T.D.C. Headliner 303, 2 slide holders, \$15; Sportsline heavy duty trailer hitch, fits GMC or Chev. pickup, \$35. Heath, 869-2181.

LUDWIG concert snare drum (as used in public schools), \$60; baby carriage-stroller \$20; high chair, \$11. Vittoe, 299-9298.

BEDROOM SUITE; twin beds, French Provincial w/Simmons springs, mattresses; 6" dia. Karistan area rug, blue green. Randall, 299-0372.

BUNDY B-flat clarinet; 3/4 size violin; E-flat alto saxophone. Traeger, 298-0728.

CATTLE RACK for 1/2-ton pickup, \$40. Sanchez, 864-8494.

SINGLE BED; dresser; file cabinet; desk. LaPoint, 268-2290.

SCHWINN Collegiate, 4-spd., girl's 19" frame, campus green, new, cost \$88, sell for \$75. Free 8-yr.-old spayed female poodle w/papers. Campbell, 268-8445.

'70 HONDA CL 350, low mileage; bunk beds, Sears wagon wheel design w/springs & mattress or trade for sofa bed. Singleton, 299-1613 after 6.

BABY CRIB, walnut finish, \$30. Switendick, 265-0345.

GARAGE SALE, Friday & Saturday, furniture; child rearing equip; '69 Fiat 850 Spider, new top & tires. Luna, 4809 Northridge Ct.

COLT GOLD CUP .45, Bolleb, primers, brass, powder, dies, ammo, 3 clips, \$155. Stephenson, 299-3914.

CONN clarinet w/case; Roth 3/4 size violin; sewing machine, Singer straight stitch in mahogany cabinet. Chavez, 299-5102.

BUNDY clarinet, \$75; baritone horn, \$150. McIlroy, 299-4977.

MOTORCYCLES: '70 Yamaha 175 CT-1, \$400; '71 OSSA 250 Pioneer, \$650; '66 Honda 305 street, \$275. Jones, 298-8492.

HEADBOARDS, twin wrought iron, white w/gold, \$15 ea. Parks, 296-2261.

RIFLE, 7.65mm w/ammo, \$40; 16 gauge dbl. barrel French shotgun, \$60; exercise bike, \$10; small drafting table w/tee square, \$12. Swiss, 265-5346.

SINGLE built-in elec. oven, Westinghouse; built-in elec. rangetop, Westinghouse; 21" gasoline rotary mower, Wards; \$10 each. Kobs, 298-9133.

500cc Kawasaki, 3-cyl., low mileage, orig. tires, \$600. Watterberg, 294-6759.

ICE BOX for camper, 50-lb. ice capacity, harvest gold door, 19 1/2"D, 20 1/4"W, 26 1/2"H. Hole, 255-1444.

COINS (Lincoln cents, proof sets, BU halves); 3-speaker hi-fi, \$15; desk/work bench, \$15; Sears exercise, \$30. Lassiter, 255-0532.

GIRL'S bicycle, Sears 16", blue & chrome, thorn-proof tubes, training wheels, \$23; rabbits, 3 mos. \$1.50. Bassett, 898-1840.

AIR CONDITIONER, 15,000 BTU, window mounting, 220V, \$100; shower enclosure, corner style, used, \$20. Bennett, 298-1142.

BICYCLE, Murray man's 3-spd., lt. wt., 26", \$40. Romero, 299-5189.

YOUTH BED, \$12; child's car seat, \$5. Reed, 299-2425.

SOFA & CHAIR, red fabric, \$50. Candelaria, 877-2321.

O'KEEFE & MERRITT elec. range, white, 30" width, 4 burners, extra lg. oven w/ auto. timer, nearly new. Barth, 345-0172.

CLARINET, B-flat French La Marque w/case. Moore, 268-9658.

'71 HONDA CB 450, \$775 or best offer. Janes, 265-8153.

FOR SALE CARS & TRUCKS

'69 OPEL KADET sta. wgn., AT, air, 40,000 miles, \$1400. Kershner, 299-6513.

'63 VW BUG, \$550. Rogers, 256-0066.

'65 FORD sedan, Fordomatic, air, radio, extra wheels w/snow tires, \$550. Wilson, 268-3633.

'67 MUSTANG, 6-cyl., std., \$975; mini-bike, 3 1/2 hp, \$65. Stang, 256-7793.

'67 INTERNATIONAL Travelall, AT, V8, air, power lift window, luggage rack, auxiliary fuel tank, \$1950. Roache, 268-4686.

'65 RAMBLER. Silva, 344-6714.

'69 PONTIAC LeMans, V8, air, bucket seats, R&H, PS, \$1795. Daniels, 266-8914.

'62 OLDS Dynamic 88, PS, PB, needs some work, \$200. Fjelseth, 299-4539.

'66 CHEV. Impala, 4-dr., V8, AT, AC, PS, new tires, \$725 or best offer. Leyba, 266-0510.

'69 FORD 3/4 ton, camper special, AC, PS, low mileage, w/8 1/2' Travel Queen camper. Cleveland, 299-7420.

'49 CHEV. 1/2-ton truck, new leather seat covers, big back view mirrors, spot light, new paint. Sanchez, 344-5031.

'63 CHEVROLET sedan, AT, 70,000 miles, \$225. Laursen, 266-3190.

'69 CORVETTE Stingray, 350 auto., AC Howe, 266-3964 evenings.

'64 VW, AC, radio, Pryor, 344-2931.

'62 CADILLAC, all power, sell or trade for pickup or 4-wd. Brooks, 299-1884.

'68 DELTA 88, 4-dr. sedan, AT, PS, AC, 39,000 miles, white w/lt. blue top, \$1595; pr. Fender mirrors, chrome plated, \$12. Arthur, 299-1802.

'55 CHEVROLET 2-dr., 6-cyl., 235 engine, std. trans., new paint, \$200. Hoagland, 282-3825.

'69 VW squareback, new tires, battery, AM-FM radio, other extras, \$1395 or best offer. Hubbard, 299-7818.

'66 AMBASSADOR, 232 engine, auto., R&H, bucket seats, \$500; Ironrite mangle ironer, \$85. Kelly, 294-0284.

'65 FORD Custom 500, V8, Auto., \$425. Rizkalla, 264-2449.

'64 STUDEBAKER 2-dr. sedan, 54,000 miles, R&H, \$275. Smith, 298-7365.

'62 MGA, MK 11, R&H, new paint, clutch, pressure plate, engine recently overhauled, Looney, 255-7349.

'67 SPORT FURY convert., air, radio, PS, AT, 52,000 miles, best offer above \$1195. Ray, 298-0408.

'67 BELAIR V8, factory air, \$975. Montoya, 344-8416.

JEEP CJJ-A, 4-wd, universal rebuilt, w/o w/o OD; hubs, tow bar, top, rear seat, 4-cyl. Westfahl, 298-5087.

FOR SALE REAL ESTATE

3-BDR., 1 3/4 bath, utility rm., walled backyard, near Coronado Center, \$111/rno., includes PITI, \$18,500, 2425 Cagua NE. Swanigan, 255-4247.

NEW CUSTOM HOME, many special features, near schools-shopping-churches-freeways, financing conventional, VA, FHA, 1850 sq. ft. Feldman, 344-6114 evenings.

LOTS in Paradise Hills, Knolls Addition; plus 1 acre 5 miles south of R6 on 217, terms. Brown, 296-5949.

3-BDR. BRICK, 2000 sq. ft., 1 3/4 bath, new carpet, paneled den, wet bar, enclosed patio, fp, landscaped. Schuldt, 299-7207, 11715 Holiday NE.

WANTED

SMALL FAN to help cool boy's clubhouse, willing to pay no more than \$5. Hudson, 296-3484.

LADIES BICYCLE, 3- or 10-spd. Norwood, 298-8642.

MATURE, reliable woman for part-time baby sitting in 4-Hills hooor 2 children, ages 1 1/2 and 3 1/2; used 10" Delta table saw. Kjeldgaard, 296-2212.

SIZE 10-10 1/2 B, size 8 1/2 D, used golf shoes for boys starting golf lessons. Nelson, 255-2364.

BUNK BEDS or hide-a-bed; boy's bike. Zimmerman, 296-1058.

USED CINDER BLOCKS. Wladika, 255-9166.

TYPEWRITER, standard, pica type, good condition. Binder, 299-2937.

RABBIT HUTCH for homeless rabbit. Mikkelsen, 268-1485.

TWIN SIZE MATTRESS; box spring; hollywood frame, small dresser & mirror. Peterson, 256-7514.

RUG or carpet remnant for schoolroom activity area, free or very cheap. Randall, 299-3935.

OLD or unusual cartridges, military or commercial, buy, sell or trade. Edgerly, 898-2983.

PERSONS interested in 4th semester Out-of-Hour course in Spanish, need 20 for noon, 10 for evenings. Meyer, 4-8140.

LOST AND FOUND

LOST — Bone handled pocket knife, Pontiac car key, Citizens State Bank book, plastic contact lens case. LOST AND FOUND, tel. 264-2757, Bldg. 832.

FOUND — Cuff link, Rx glasses w/gray frames, handcrafted silver loop — part of earring or necklace. LOST AND FOUND, tel. 264-2757, Bldg. 832.

Labor Day Ain't The End of Swim Season

HAPPY HOUR TONIGHT will feature Rio Grande style Mexican food on the buffet line and the Saints on the bandstand. Denny Gallegos will entertain in the main lounge. Next Friday, Happy Hour will see the Prisoners loose on the bandstand and the Club's famous chuckwagon roast beef on the menu. On Friday, Sept. 15, Christopher will play for dancing while veal cutlets are spread for the buffet.

Happy Hours start right after work on Friday evenings and run until 10 p.m. with special prices. The buffet is served from 6 to 8 p.m. while the band plays for dancing from 7 to 10 p.m. The main lounge entertainment starts at 9 p.m. and continues until midnight.

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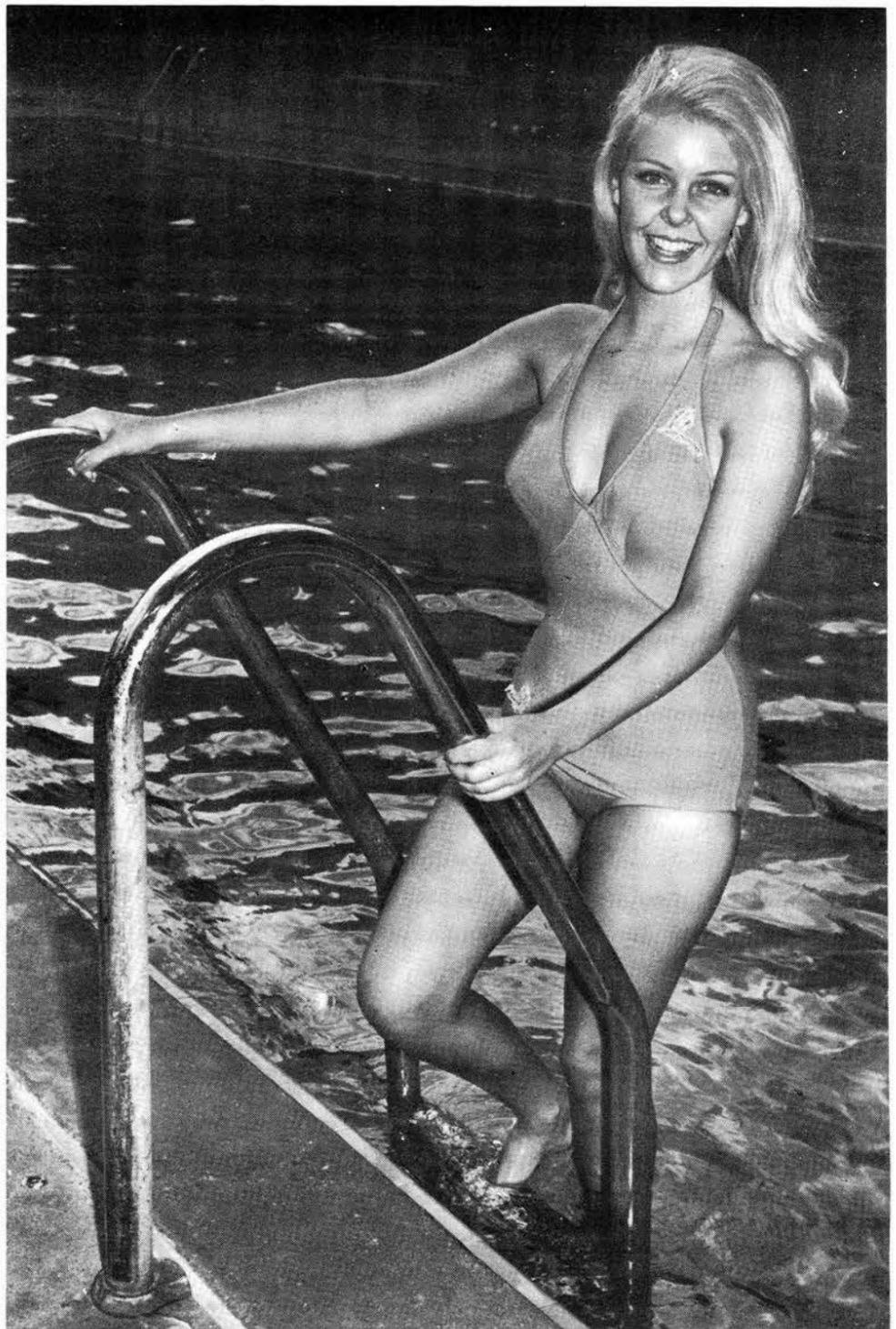
LABOR DAY, Sept. 4, is traditionally a celebration at the twin pools marking the end of swim season among other things. This year, the celebration will still be held — swimming, 10-cent beer, Happy Hour bar, entertainment from 1 to 3 p.m. by the Mariachi Gala — but swim season will continue on weekends through Sept. 24. The hours will be from 3 to 10 p.m. on Fridays and from 11 a.m. to 6 p.m. on Saturdays and Sundays.

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FAMILY VAUDEVILLE NIGHT Saturday, Sept. 9, will see a trio of cuties called the Sophistikits return to the stage with their swinging singing and dancing act. The movie will be the classic "Treasure Island." Super sandwiches and Happy Hour prices will be available about 6 p.m. Admission is free to members and families.

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DONNA REEL, Miss New Mexico- Universe and winner of the swimsuit competition in the recent Miss Universe contest, will be one of the models displaying the latest fall fashions from Ann's Naturally at a noon-hour fashion show at the Club Wednesday, Sept. 13. Rosario Ayres will be the moderator.



DONNA REEL, Miss New Mexico and swimsuit competition winner in the recent Miss Universe contest, is helping LAB NEWS promote a couple of things with this photo: one, Donna will be among the models in a fall fashion show during the noon hour at the Club Sept. 13; and, two, hours for twin pool operation have been extended for weekends through Sept. 24. Thanks, Donna.



HELPING CONDUCT the annual membership drive for the Sanado Women's Club are Judy Love and Charlotte Johnson. Prospective members are invited to a coffee Tuesday, Sept. 12, at 9 a.m. Various Sanado interest groups will discuss their activities.

SANADO WOMEN will host a coffee Tuesday, Sept. 12, from 9 to 10:30 a.m. at the Club as part of their annual membership drive. All women who hold Coronado Club membership are invited to learn about Sanado programs and activities.

Sanado interest groups include art, gourmet cooking, bowling, bridge, golf, horseback riding, skiing, tennis, and investing plus various classes in sewing and self-improvement. Next year's activities will include a number of evening programs for those unable to attend daytime functions.

No reservations are necessary to attend the meeting.

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THE TRAVEL PROGRAM is going great guns, according to Bud Wheeler (3251), Club travel director. Only a dozen seats are left on the Mazatlan tour scheduled Oct. 16-23. This package (including rooms at the luxurious Playa Mazatlan hotel, breakfast and dinner there each day, a cocktail party, a fiesta night, etc.) sells for \$229 for double occupancy. This one is about full, Bud says, so if you want to go, better hurry and contact the Club office.

The chartered bus to El Paso Oct. 21-23 to see the Lobo-UTEP game has only 18

remaining seats. The package, which includes rooms at the Roadrunner Hotel in Juarez, refreshments on the bus, tickets to the game, and local transportation, costs \$55 for doubles, \$64 for singles. It's open to members, families and guests.

The Rio de Janeiro trip, scheduled Feb. 18-25, 1973, has already attracted 50 signups, Bud reports. The \$502 price includes room at a deluxe beach hotel, two meals a day, tour of the city and tour of Corcovado. A \$100 deposit is required at the Club office right away, Bud says.

Annual Retiree Dinner Scheduled Sept. 7

Annual dinner for all retired employees and spouses is set for Thursday, Sept. 7, at the Coronado Club. Invitations have been mailed to 934 retirees.

Speakers for the occasion will be President John Hornbeck, and Vice Presidents Charlie Campbell and Al Clogston.

Social hour will start at 4:30 p.m. followed by the buffet dinner at 5:30.