



DIVISION STATUS — President William B. Bergen emphasized to members of supervision last Saturday in the Long Beach Lodge that continued excellence is key to obtaining new business.

NASA ESTABLISHES FACILITY FOR EARTH RESOURCES STUDY

An Earth Resources Research Data Facility has been established at NASA's Manned Spacecraft Center, Houston, Tex.

The Facility contains a major portion of the documentation resulting from activities of NASA and user agency investigators participating in the Earth Resources Survey Program during the past three years.

This includes documentation on sites in the United States that MSC planes and sensor-carrying aircraft, based in other locations, have flown over as part of the early program.

Although no reports are now being disseminated from the Facility, the information on file is available to interested persons

or organizations, NASA said.

Cooperating scientists in the Departments of Agriculture, Commerce, Interior and the Naval Oceanographic Office have determined that much information can be derived from multispectral images of the surface of the Earth taken from aircraft.

This information includes crop species and health, soil types and moisture content, coastal shoaling and water pollution.

The division has its own company-funded studies of overflights of agriculture, coastal and geological areas in California and Arizona using a division-developed multispectral camera. Additional flights are planned this fall.

Apollo 11 Color Photos To Be Sold by GPO

Color pictures of the Apollo 11 mission will be sold by the Superintendent of Documents, Government Printing Office, Washington, D.C.

Pictures will be available in a set of twelve 11" x 14" lithographs for \$1.75 per set and a single 16" x 20" lithograph showing man on the moon for \$1. All pictures will be suitable for framing.

Two other sets of 11" x 14" color pictures already are available:

NASA Picture Set 1, "Apollo — In the Beginning," a set of seven pictures of various scenes of Apollo missions, including Earth-rise over the lunar horizon, \$1.25;

NASA Picture Set 2, "Men of Apollo," five pictures of the crews of Apollo 7, 8, 9, 10 and

Bergen Calls for 'No Letdown in Inner Pride'

Myers Emphasizes Nine Additional Lunar Landings are Slated

How we meet challenges in a strongly competitive market will determine the division's future, executives told some 800 members of supervision last Saturday at the Long Beach Elks Lodge.

Praise for Apollo and Saturn S-II accomplishments was mixed with a preview of future Space Division plans.

President William B. Bergen said that "The Apollo 11 success was the greatest technological achievement in history for which Space Division employees could be proud the rest of their lives."

Bergen noted, however, that "there still are other Apollo missions to come and there must be no letdown in the individual's inner pride of doing absolutely 'perfect' work. Maintaining our high standards is certainly one key to future business," he emphasized.

Bergen, as well as other speakers, noted that specific national goals are needed as soon as possible. President Richard Nixon is to meet with space advisers Sept. 1 and such goals may be announced at that time, said Bergen.

(Continued on Page 3, Column 2)

IN LATE 70s V.6 'Grand Tour' of Five Planets Recommended

Unmanned interplanetary exploration, including a Grand Tour mission in the late 1970s, has been recommended by a panel of scientists.

In a report published by the Space Science Board of the National Academy of Sciences, it was recommended that the United States use technology developed over the past decade to explore the solar system.

The board recommendation was prepared by 23 scientists in a study directed by Dr. James A. Van Allen, University of Iowa, and Dr. Gordon J. F. MacDonald, University of California at Santa Barbara.

Apart from recommending missions to specific planets through the 1980s, special mention was made of the Grand Tour of Jupiter, Saturn, Uranus, Neptune and Pluto.

These five planets will be in a favorable alignment during the late 1970s which would permit the use of gravity forces to accelerate spacecraft from one planet to the next. Such an alignment is not expected to exist again until 2155.

Industrial Payroll Savings Chairman Commends Company on Record

James M. Roche, chairman of the U.S. Industrial Payroll Savings Committee has sent a message of congratulations to North American Rockwell for an "outstanding accomplishment" in the recently concluded Payroll Savings campaign.

His message to J. L. Atwood, president and chief executive officer, read:

Congratulations on the excellent results achieved in your savings bonds campaign. Obtaining 90.2 percent participation was an outstanding accomplishment and you and the employees of North American Rockwell are to be complimented for the valuable contribution you have made to our national effort.

U. S. HAS 'CAPABILITY'

Paine Says Mars Mission Would Be Possible by '81

A manned Mars mission is possible by 1981, Dr. Thomas O. Paine, NASA administrator, said last week.

Paine, speaking at a luncheon meeting of the Los Angeles World Affairs Council in the Biltmore Hotel, said that the United States already has in the Saturn rockets the lift-off capability of sending a manned spaceship on a two-year round trip to Mars.

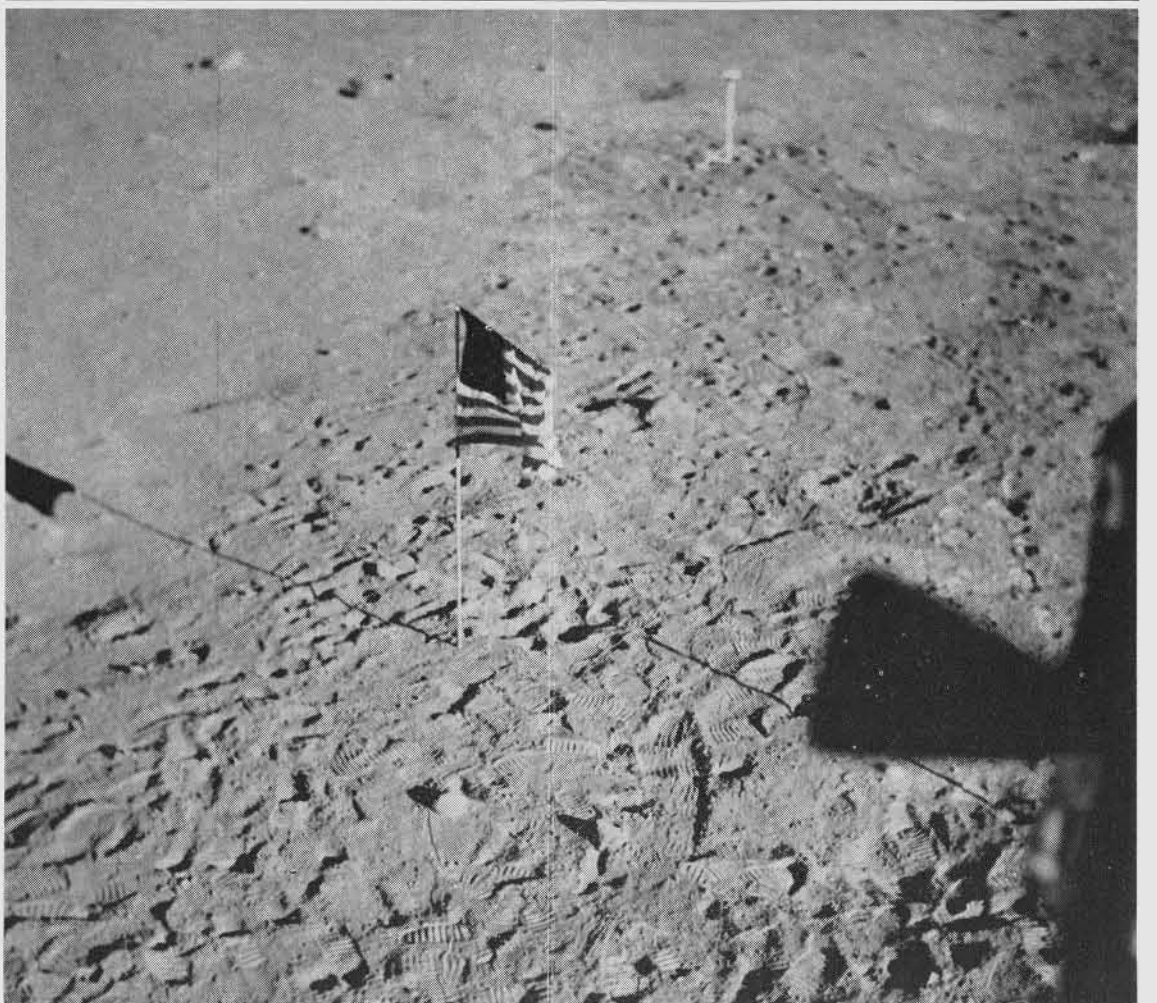
Such a long trip would require development of a powerful, efficient nuclear engine, Paine added. He explained that research on such an engine is

now under way and that a 1981 manned mission to Mars is possible.

The NASA administrator said he believes that the biggest immediate need in a continuing United States space program is the establishment of future goals. The goals, he explained, should be as definite as that proposed by the late President John F. Kennedy of landing a man on the moon and returning him safely to Earth in this decade.

Paine and other policy makers are to meet with President

(Continued on Page 2, Column 3)



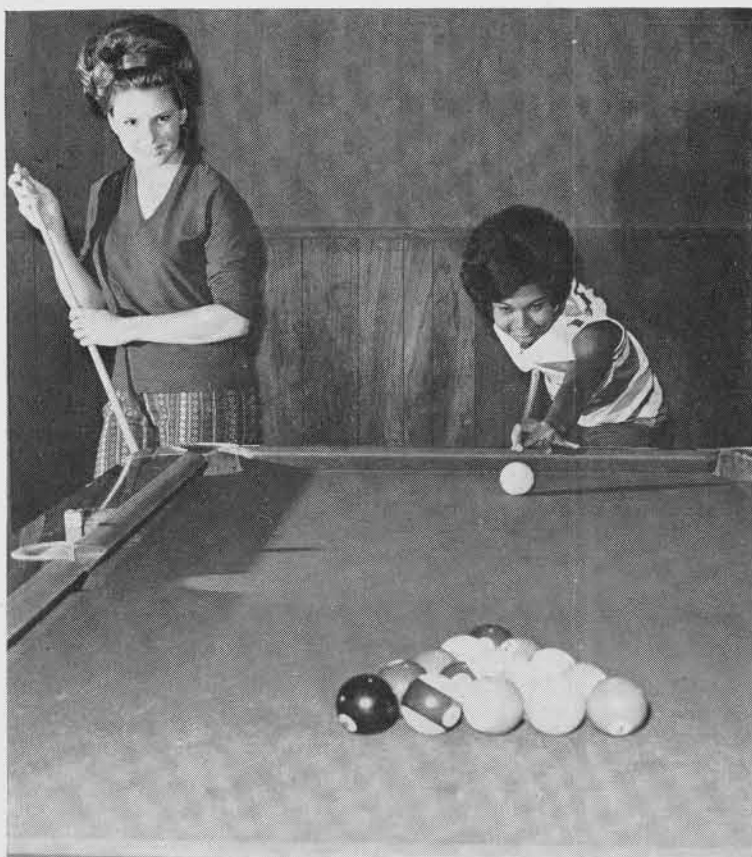
BY DAWN'S EARLY LIGHT — American flag was deployed on lunar surface July 20 by astronauts Neil Armstrong and Edwin Aldrin. Footprints may be seen. In background is video camera.

The following letter was received recently by division President William B. Bergen from George M. Low, manager, Apollo Spacecraft Program, NASA's Manned Spacecraft Center, Houston:

Neil Armstrong called it: "One giant leap for mankind." I can think of no better words to describe the events of recent days. I am sure that it will take us many months, or even years, to recognize the true meaning of man's first landing on another body in space.

The Apollo manned lunar landing was made possible through the tremendous efforts, skill, and dedication put forth by the Space Division of North American Rockwell. I would like to offer my personal congratulations and a heartfelt thank-you to you and your entire team.

Sincerely yours
/s/ George Low



REGISTRATION THURSDAY — Mary Ann Gravely, left, and Loretta Van Tienen, are members of the division's Cool Cue Crew. Registration for a new women's pool league will be 7:30 p.m. Thursday at Black Jack's, North Long Beach. For more information, call Mary Ann, Ext. 4373, or Loretta, Ext. 2121, 2179.

Mars Mission ...

(Continued from Page 1, Column 2) Nixon around Sept. 1 to discuss specific space goals.

Outlining one way the American space program could unfold in the next few years, Paine envisioned an Earth-orbital space station with a shuttle vehicle operating between Earth and the station.

He estimated that the cost of the Mars mission, if the program is orderly and if the space station were set up first, would not be more expensive than the Apollo Program.

Space expenditures amount to less than five percent of the gross national product, he pointed out, and space operations already are paying immense dividends. These benefits may be expected to accrue steadily, he noted.

Paine compared space exploration to the Louisiana Purchase and the purchase of Alaska, both of which were criticized at the time as being wasteful.

Answers to some of the problems we face here on Earth may be found through a vigorous United States space program, he said.

Trio of Secretaries Receive Proof of Their Occupational Proficiency

Joan Anderson, Ruth Beale and Pat O'Brien have scaled the pinnacle as secretaries.

They have just received their Certified Professional Secretary certificates after having passed a difficult two-day examination in the areas of human relations, business law, business administration, accounting, office procedures and secretarial skills.

Out of 2,199 candidates for the examination, fewer than 400 were certified. The Institute for Certifying Secretaries, a part of the National Secretaries Association, has designated CPS as the recognized standard of secretarial proficiency. Since the program began in 1951, fewer than 5,000 secretaries in the United States and Canada have been thus certified.

Heretofore, the only CPS at the Space Division was Millie Peterson, secretary to Sherman E. Ellis, vice president—administration.

Joan, secretary to William E. Dean, assistant program manager, Saturn S-II Program

Planning and Control, has been in secretarial work 12 years. During that time, in addition to being a housewife and mother, she attended the University of Minnesota and Cerritos College. Last year she received her part-time teaching credential in business education and currently is working toward a degree in Business.

Ruth, secretary to Donn R. Parsch, manager, Saturn S-II Material, has been with the company 7½ years, came to the Space Division after spending three months at Autonetics. One of her three sons, John Beale, now works at Autonetics, having transferred from the Space Division a year ago. Ruth is a charter member and is currently first vice president of the Paragon Chapter of the National Secretaries Association. She was graduated from a business school, Heald College, San Francisco.

Pat, secretary to S. H. Nelson, division director of Material, has been with the company 9½ years, and, like Ruth, transferred to the Space Division from Autonetics.

GEN. E. F. O'CONNOR MOVES TO ASD POST

The Apollo 11 mission successfully completed, Maj. Gen. Edmund F. O'Connor has left NASA's Marshall Space Flight Center, Huntsville, Ala., to become vice commander of the Air Force's Aeronautical Systems Division at Wright-Patterson AFB, Ohio. The change in Air Force assignment was effective Aug. 1.

It was announced earlier that following the lunar landing mission, O'Connor would leave his NASA post as director of Program Management at MSFC and that he would be succeeded by Lee B. James, former director of the Saturn V Program Office.



CERTIFIED SECRETARIES — Pat O'Brien, left, Ruth Beale, center, and Joan Anderson recently passed the difficult Certified Professional Secretary's bank of tests covering a broad range of skills.

ASTRONAUT TRIO, MODULE TO START HOME NEXT WEEK

The Apollo 11 astronauts and their command module, S/C 107, are scheduled to go home next week.

The Apollo 11 command module will arrive back in Downey next week and will be on display for employees and their families next weekend.

Neil Armstrong, Mike Collins and Edwin Aldrin are to be reunited with their families in Houston Monday, after having been quarantined 21 days to determine whether they've suffered any adverse effects from their lunar landing mission. Thus far, NASA physicians at the Manned Spacecraft Center's Lunar Receiving Laboratory have given them a clean bill of health.

Proctor Scores Hole-In-One

Jim Proctor, CSM System Engineering, scored his first hole-in-one on the Par 3, 207-yard fifth hole recently at the Rio Hondo Golf Course during the NR Twilight League competition.

Employees Express Patriotism and Pride

Patriotism and pride were generally felt by Space Division employees in reactions to the success of the epic Apollo 11 mission.

Larry Copeland, CSM Programs, said "I personally feel that it's the greatest scientific or technical achievement in the history of mankind. The full import of the accomplishment may not be realized for at least 10 years. I'm proud to be a part of the program."

Stan Cornelius, CSM Manufacturing, commented, "I don't know how it could have gone better, not only from the point of view of the guys on the moon but all of us down here as well."

Record TV

Thelma MacDonald, secretary to the manager of Internal Audit, Seal Beach: "It was wonderful! I've never watched so much TV in all my life!"

Dr. Galen Etemad, Research, Engineering and Test: "I believe that even for those persons who are fully involved in the program it was a great achievement. The space program is now viewed in a different light. Even the untechnical people in my neighborhood want to know what we are going to do next."

C. R. Glenn, Jr., Saturn S-II

Manufacturing: "I felt nothing but pride. I came down here to Seal Beach when the first shovel of dirt was turned over for our new buildings. That's how long I've been with the program. The S-II performed beautifully. All of us are really proud."

Helen Isbell, secretary to the director, Mississippi Test Operations: "I was so proud that if I had owned a red, white and blue dress, I would have put it on. We feel that we're a part of all

missions here."

A. C. Martin, director, S-II Operations: "By golly, it's hard for us to believe that what we have been working for so long and so hard, has actually come true. You know, some of our people came here from California and had participated in the design phase, even the preliminary design phase."

Joe Cuzzupoli, manager of Manufacturing Engineering and Development: "Bring on Mars. We're ready for it!"



SAFETY DINNER — Harley L. Tracy, left, manager, Industrial Safety, confers with Sherman E. Ellis, vice president, administration, at the annual Safety Committee Banquet, attended by 75 safety committeemen at Lakewood Country Club recently.

CALL FOR TECHNICAL PAPERS ISSUED IN BULLETIN OF AIAA

Calls for papers of interest to division scientists and engineers are announced in the August Bulletin of the American Institute of Aeronautics and Astronautics.

Aug. 18 is the abstract deadline for the AIAA 8th Aerospace Sciences Meeting, to be held in New York City, Jan. 19-21.

Sept. 25 is the abstract due date for the national fall meeting of the American Geophysical Union, to be held Dec. 15-18 in San Francisco. This meeting is being sponsored, in part, by the AIAA.

Sept. 25 is the abstract deadline also for the AIAA 3rd Communications Satellite Systems Conference to be held April 6-8 in Los Angeles.

Authors are reminded that abstracts as well as papers must receive company clearance. When NASA clearance is required, via Public Relations, a minimum of 30 days is needed; when military clearance is needed, some 60 days are required. Additional information on clearance procedures may be obtained from Public Relations, Ext. 6460 5948.

Hybrid Circuits Now for Sale 'Off-the-Shelf'

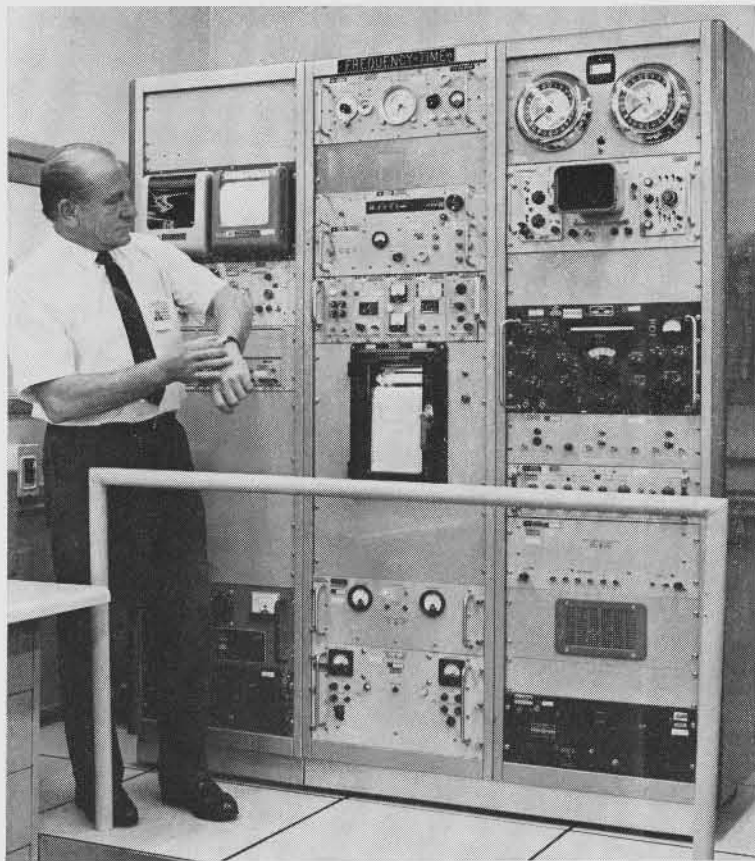
North American Rockwell engineers looking for the latest in hybrid thin film microcircuits — either off-the-shelf or custom made — can do their shopping right at home.

These thin film circuits are available from Autonetics' Electro Sensor Systems division where a production facility has been in existence for several years and currently is producing several thousand hybrid thin film circuits a month.

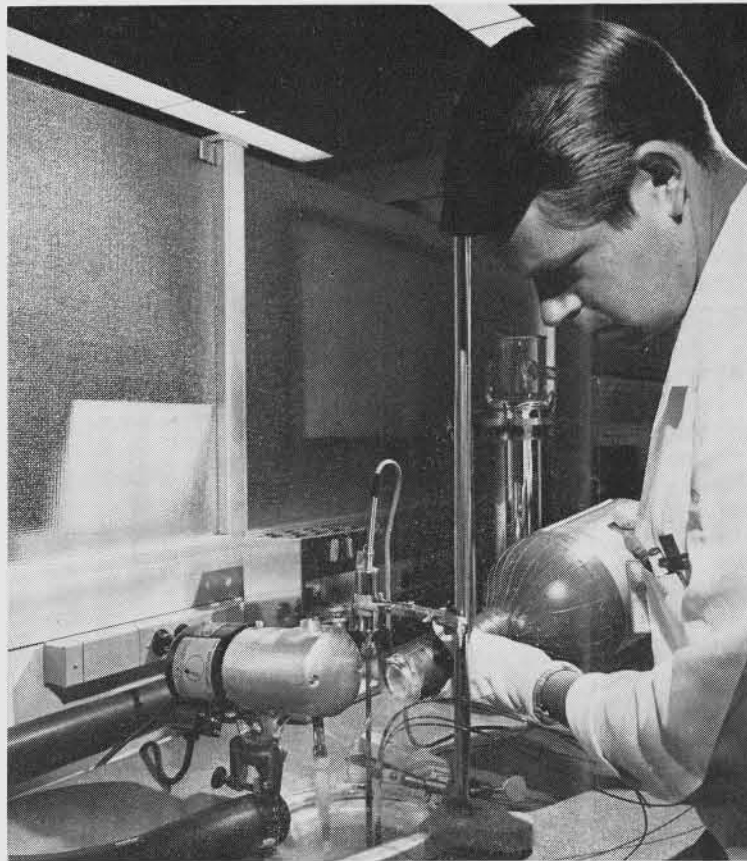
Hybrid thin film microcircuits include medium scale integration (MSI) and bipolar devices from various outside vendors.

YOU ARE THE "I" IN PRIDE

Q&RA'S METROLOGY LABS ARE WORLD OF INDUSTRIAL 'MAGIC'



TIME MACHINE—Peter Joeschke, manager of Metrology Laboratories, checks watch with frequency-time complex, which maintains such accuracy that it would vary one second in 1400 years.



CRYOGENIC CRUCIBLE — Gerry McMahon, temperature standards technician pours liquid nitrogen, minus 420 degrees F., into a crucible in setting up a series of tests of a thermocouple.



WEIGHT WATCHER — Jackie Nash, mass measurement technician, works in a clean room environment among devices which can measure millionth-of-a-gram weight of a pencil-dot on paper.



MICROINCH MARKINGS — Joeschke examines readout from machine with stylus so sensitive it can measure in microinches any scratches on a spacecraft window. Hair is 3,000 microinches.

Lab Standards Are Paragons of Accuracy

There's a touch of something almost like magic in what Peter A. Joeschke may think of occasionally as a workaday world.

Joeschke — manager of the Space Division's Metrology and Standards Laboratory—is surrounded in his seven Bldg. 4 laboratories with devices which would make a Merlin blink.

With these tools, Joeschke and the other 49 Metrology Labs personnel can accomplish the following wonders in the measuring world:

The millionth-of-a-gram weight of a pencil-dot on paper can be measured as routinely as a force of one million pounds;

Time and frequency standards which furnish frequency time signals to various test functions will not vary more than one second in 1,400 years;

Minute gaseous leaks which would require 21,765 years to fill a 10-inch-diameter volleyball can be detected;

Roundness and surface quality measurements of two microinches are not uncommon — the average human hair is 3,000 microinches thick;

Angles can be measured to one 1/100th of a second of arc — the same angle described by the thickness of a dime 30 miles away;

Temperatures can be measured from minus 452 degrees F. to 4,300 degrees F.

There are devices which can measure currents as strong as 100,000 volts and currents so weak that when a light is flicked on in Los Angeles the voltage change could be detected at the Hoover Dam generating plant.

What is done with all this equipment? Joeschke explains that "within Quality and Reliability Assurance, the Metrology Labs' role is to provide measurement standards for all secondary division labs which calibrate measuring and test equipment.

"We provide standardization for more than 100 measurement disciplines in the electrical-electronic, optical, and physical dimensional sciences. Some 32,000 of the division's total of 56,000 devices are controlled and recalled for recalibration by the computerized Calibration Recall and Information System. (CRIS).

"Items thus controlled range from thread wires to multi-million dollar test systems."

Management, Administrative Courses Offered

Cerritos College will offer sixteen management and administrative courses in Downey beginning in September.

Harold Hill, manager of Manpower Development, announced last week the courses will begin the week of Sept. 15, 1969 and continue through January. They will be presented in Bldg. 5 starting at 5:30 p.m.

Included in the course schedule are organizational management, accounting, business law, mathematics of business, data processing fundamentals, personnel relations, shorthand and human relations in business.

The courses lead to certificate/degree programs in the specialty fields of management and supervision, secretary, administrative secretary, technical secretary, accounting and business administration. All courses will earn credit toward an associate in arts degree.

Additional Lunar Landings on Schedule . . .

(Continued from Page 1, Column 4)

J. E. Franklin, division vice president, Advanced Programs, said that the success of the Apollo Program is "opening a lot of doors for us" and that the division is pursuing business not only in traditional fields such as manned and unmanned space areas but also in new areas such as transportation and the solving of water and air pollution problems.

Franklin urged each employee to realize that each bit of work produced, software or hardware, represents the company to the customer. And he cautioned that "amidst hungry competitors, we must be the best of the hungry — there'll be very few contract awards for coming in second."

Dale D. Myers, vice president and general manager, CSM Programs, noting that present plans call for nine additional lunar landings, said that the last five of these nine missions are expected to carry special scientific instruments in a bay of the service module. The next lunar landing mission, Apollo 12, is sched-

uled for launch Nov. 14 with others to follow at about four-month intervals.

In addition, present plans call for four Apollo Applications Dry Workshop missions, beginning in 1972.

Myers stressed that despite the success of Apollo 11, "we must improve our workmanship." He said that serious study is being given to re-flying refurbished command modules.

It was noted that during the Apollo 11 de-briefing in Houston, astronaut confidence in the CSM came through "loud and clear." Command Module Pilot Mike Collins, alone in the CSM while Neil Armstrong and Edwin Aldrin were in the lunar module, said he felt no apprehension going to sleep in lunar orbit — such was his confidence in the Space Division-built spacecraft. As for the S-II-6, Armstrong said "it gave us the smoothest ride ever."

Robert E. Greer, vice president and program manager, Saturn S-II, said that 10 stages have left Seal Beach with five more to go under the existing

contract. Greer said that discussions are being held with NASA toward the possibility of building additional stages.

Praising S-II employees, he said that for recent stages, S-II-7 through S-II-11, 86.8 percent of the welds have been completed without any requirement for rework.

MOTORISTS MAY TEST DRIVING SKILLS

KNBC Los Angeles, Channel 4, will give viewers an opportunity to test their freeway driving skills tomorrow evening.

In a program, "Survey," beginning at 7 p.m., host Bob Wright and guest, Ted Bradley, of the California Highway Patrol, will present a series of questions to be answered by the viewer at home. Each question will be illustrated with film or other visual aid.

Material for the program was developed by the Automobile Club of Southern California and by Wright.

"Drivers tend to have some

wrong ideas about how to handle their cars on the freeway," Wright said. "Sometimes what appears to be logical may be wrong — dead wrong. We will cover some of these situations."

North American Rockwell News

J. S. Elliott
Editor, Skywriter
Judy R. Brown
Assistant Editor

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Service Pins 30-Years



J. J. Trum G. H. McDonald



W. F. Robinson H. A. Gardner



V. A. Thompson

25-Years



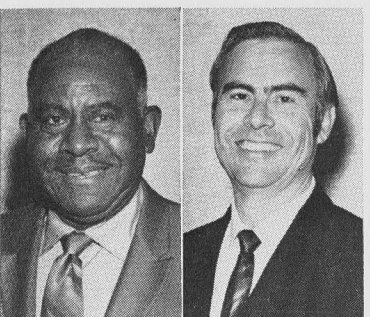
H. C. Aldridge Burl Brown



C. A. Colquitt J. S. Stanton



J. H. O'Sullivan M. W. Hurlbut



Jesse Gaines H. H. Hughes

Classified Ads

FOR SALE

AUTOS

- '57 Ford, \$150, 596-9137.
- '60 Ford 9-Pass. Wagon, 714/549-0495.
- '66 Ford Econoline Supervan, 714/894-5409.
- '63 F-85 Deluxe, 594-4151.
- '67 Plymouth Barracuda, 536-8379.
- '56 T-Bird, 431-4127.
- '66 TR-4A, \$1500, 438-4058.
- '62 Intnatl. Travelall, 425-0709.
- '64 VW Bug, \$800, 523-1942.
- '66 VW Sunroof, \$1300, LA 6-5207.
- '66 BMW 1800 Sedan, 691-3648.
- '48 Chev. Pickup, \$75, 714/871-9499.
- '55 Chev. Full Race, OX 9-1988.
- '65 Corvair, Auto., 2-Dr., H/T, 861-8677.
- '63 Corvette Fastback, \$2000, 434-0310.
- '69 El Camino, A/C, 696-8071.
- '67 Ford Wagon, 714/894-4610.
- '64 GTO, 528-5848.
- '64 Karmann Ghia, VW, \$1300, 433-1828.
- '65 Mustang, \$1250, DA 4-5900.
- '56 Olds 98, Full Pwr., \$200, 827-7885.
- '61 Olds Conv., \$200, 923-3538.
- '57 Opel, \$99, 714/535-0511.
- '67 Opel Wagon, \$1,185, 714/968-1057.
- '63 Pont. G. P., \$425, 714/892-5288.
- '65 Porsche, 1600 "C", 714/968-6503.
- '56 T-Bird, 431-4127.
- '69 Toyota Crown, \$2200, 862-2665.
- '62 VW, \$795, 714/637-5095
- '64 VW, \$900, 430-0109.
- '66 VW, 861-5425.
- VW Fibreglass Dune Buggy, 714/636-3536.

MOTORCYCLES

- '68 250 Sears (Puch), 245-4120.
- '68 White, TO 1-5505.

FURNISHINGS

- Dinette Set, \$10, 714/774-5948.
- Gaffers & Sattler Dishwasher, 523-2170.

REAL ESTATE

- 3 bdrm., built-ins. \$32,950. Wirt, 645-7679.

BOATS

- 14" Intnatl. Sailboat, 438-4058.
- 15 1/2' Trojan 25HP Evin./Trailer, 714/826-2707.
- 16' Cabin Cruiser, \$900, 714/827-6981.
- 12' Fiberglass Boat, \$75, 941-9794.
- 13' Boat, \$150, 714/642-3939.
- 14' Ski Boat Hull & Trailer, 864-9989.
- 16' Ski Boat, \$1100, 320-4445.
- Boat, Motor & Trailer, \$300, 868-3351.
- Inboard S. K. Boat, \$3200, 376-8153.
- Sailboat Venture "21", 714/528-9723.
- Ski Boat, Tahiti, 100 Merc, \$2200, 714/523-4426.

TAPES, RADIOS, TV

- 21" Color TV, Zenith, \$300, 430-0109.
- Radio, Solid State-Auto, 370-5136.
- 19" Plymouth, \$50, FR 4-8356.

PETS

- Quarter Horse, 714/847-3639.

MISCELLANEOUS

- Accordion, \$150, 714/549-0495.
- Dk. Brown Wiglet, 869-7463.
- Pianorgan, \$85, GA 3-6856.
- Truck Van Bench Seat, 941-7200.
- Spiral Iron Staircase, 6'x20', 433-8045.
- Swing Set & Slide, 869-4716.
- Mark Ten Ignition, \$29.95, 865-0016.
- Paint Sprayer, 30# Bleeder, 523-1942.
- Trumpet & Case, 867-0730.
- Antique Novachord & Solovox, 465-9923.
- Tent Trailer, \$250, 534-9058.
- Bumper Pool Table, 714/837-2045.
- Nikon Camera F Photomic, 428-7244.
- Pentax Spotmatic 1:1.4 w/1:3.5 28 MM Lens, 784-2268.
- Skillsaw, Heavy Duty, \$35, 523-1942.
- VW Air Conditioner, 536-1019.
- View Acre, Oranges, Fallbrook, 828-1965.
- Med. Size Wedding Gown, 863-4485.
- Golf Irons, Wilson, \$30, 714/897-6072.
- Evinrude Motor, 30 HP, \$90, 691-4904.
- 2 Sand Tires, 682-4674.



ALL-STAR CAST — Among the many motion picture and television stars who will compete in the Motion Picture Tennis Championships are, from left, Desi Arnaz, Jr., Efreim Zimbalist, Jr., of "The FBI" television series; John Lupton, star of "The Days of Our Lives", Dino Martin.

Radio, TV, Racquet Stars To Serve 'Em Up

Ever wonder what television stars do during summer when reruns clutter the tube, or what motion picture actors and actresses do between jobs?

An easy way to find out would be a visit to the Los Angeles Division Recreation Center tennis courts next week when the division hosts the 35th annual Motion Picture Tennis Championships.

Besides seeing some very familiar faces, a very good brand of tennis will also be played, according to Bob Holm of the Rec Center, who is the host and official referee for the colorful tournament.

Among the stars scheduled to play are Efreim Zimbalist, star of television's "The FBI;" Doug McClure, of the "Virginian" TV series; Ron Ely, Hollywood's "Tarzan;" Lloyd Bridges, MacDonald Carey, Cornel Wilde, Howard Duff, Dino Martin, Desi Arnaz, Jr.,

James Brown and Dabney Coleman of "That Girl" TV series, who is the defending singles champion.

When the mixed doubles get under way, some of the ladies who will take the courts will be Dinah Shore, Rosemarie Stack, Karen Steele and Connie Hines.

Top professional players such as Tony Trabert, Pancho Segura and Alex Olmedo will attend the tourney and show their talents in exhibitions as will all-time tennis great Jack Kramer.

Singles competition will be held Thursday and Friday with the first matches scheduled to begin at 2 p.m. each day and continue through early evening. Exhibition doubles matches featuring stars will be played each night at 8 o'clock.

Doubles and mixed-doubles championship play will take place Saturday and Sunday with first matches scheduled to

begin at 10 a.m. both days.

Bleacher seating is available for 400-500 spectators. Admission price is \$1. All proceeds go to charity.

NASA Names Crew for Apollo 13, 14

NASA earlier this week named flight crews for Apollo missions 13 and 14.

Prime crewmen for Apollo 13 are astronauts James A. Lovell, Jr., commander; Thomas K. Mattingly, II, command module pilot and Fred W. Haise, Jr., lunar module pilot.

For Apollo 14, the crew will consist of astronauts Alan B. Shepard, Jr., commander; Stuart A. Rossa, command module pilot and Edgar D. Mitchell, lunar module pilot.

The crew for Apollo 12, named earlier, is composed of Charles "Pete" Conrad, commander; Richard Gordon, command module pilot and Alan Bean, lunar module pilot.

Apollo 12 is scheduled for launch Nov. 14.

Apollo lunar surface experiment packages (ALSEP) will be deployed on the Apollo 13 and 14 missions, extending the distribution of scientific devices on the lunar surface. In addition, objectives will include study of the dark, mantling material on the moon, volcanic processes, and age measurements.

IT'S A SMALL UNIVERSE

Apollo 11 astronauts were read a congratulatory cablegram from St. James's Palace, London. It was from a captain of the queen's life guards. Name: Col. Armstrong Aldrin Collins.

- 4 7.75-15" W/W tires, 923-6757.
- Mini-Bike, 3 speed, 871-3052.
- Bicycle, ladies, 10-sp, \$50, 421-2574.
- Stingray Bicycle, 421-2935.
- Boy's Bicycle, Stingray, \$12, 370-5136.
- Used bicycles - Girls - Tandem, HO 3-0720.
- Women's 3-sp Bicycle, 862-4129.
- Elec. Train, Pre-1942, 714/826-1396.
- Singer Sewing Mach, \$15, 421-2935.
- Singer Port. Sew. Mach, 714/837-2045.
- 24' x 48" Pool, filter, 943-8357.
- '66 Britannica Set, 262-0151.
- Table Saw, 3/4 motor, 438-2327.
- Lawn Swing, \$40, 943-8357.
- Surfboard, 10 ft., 892-9834.

WANTED TO BUY

- Weights, 110# Min., 714/529-4173.
- Used Lionel O Gauge Trains, 374-4211.
- Used World Book Set, HO 3-0720.
- Model "A" Parts, 863-8634.
- '65-'67 S/Wagon, F/Air, 714/826-1396.

RIDE WANTED

- Cypress Forest Lawn to B/6, 865-0016.

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(Continued from Page 1, Column 3) 11, which sells for \$1.

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