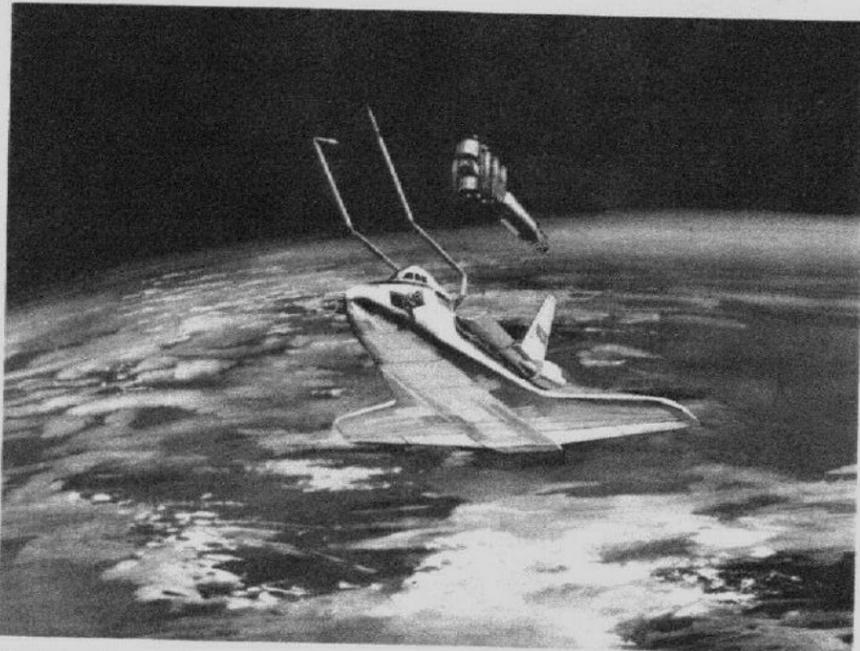




National Aeronautics and Space Administration • Ames Research Center, Moffett Field, California

Payload recovery



WITH MANIPULATOR ARMS EXTENDED . . . shuttle orbiter prepares to recover orbiting satellite. Key feature of shuttle system will be capability of retrieving payloads in orbit fore repair or maintenance in space, or for return to Earth.

Funds for assembly site

Provisions for a site for the final assembly and checkout of the Space Shuttle Orbiter were incorporated in a contract awarded to the Space Division of Rockwell International Corporation by NASA's Johnson Space Center, Houston.

Proposed modifications and additions covered by the contract, plus use and maintenance of Building 294 and other facilities at Air Force Plant 42, Palmdale, California, involve facilities work amounting to approximately \$7.3 million. Work on additions and modifications is planned to start in the

near future.

Rockwell International is the prime contractor to NASA for Orbiter development.

Orbiter test proposal evaluated

A proposal for wind tunnel tests simulating the use of a C-5A as a ferry aircraft to carry the Space Shuttle Orbiter, submitted by Lockheed Aircraft Corporation, Burbank, Calif., is being evaluated by Johnson Space Center, Houston.

In the proposal, a scale model of the airplane-like Orbiter is mounted "piggy-back" on a scale model of the C-5A. The tests would be conducted in Lockheed's Low Speed Tunnel in California, using the latest orbiter configuration.

Purpose of the wind tunnel tests are to determine: (1) if the plan is technically feasible, and (2) if feasible, determine the "optimum location" for positioning the Orbiter on the C-5A.

JSC estimated that 70 test runs will be needed, using approximately 40 hours of wind tunnel run time. The test runs would be completed by December 14, 1973.

The Orbiter is a multi-purpose delta-wing vehicle capable of operations in the weightless arena of space. It will also fly in Earth's atmosphere.

Retirees invited to annual awards ceremony

The annual Honorary Awards Ceremony for Ames employees will be held Tuesday, October 30, at 2:30 p.m.

A special invitation is extended to all retired Ames employees to attend this annual ceremony. A special section in the auditorium will be reserved for these guests.

The ceremony will honor more than 150 Center employees who will be presented with NASA length of service emblems and certificates for 35, 30, 25 and 20 years of Federal service.

Committee's results presented

"Is NASA providing the kind of environment which assures the career and professional development of future NASA leaders, especially among the young professionals in the Agency?" This was the basic question underlying a study in which the NASA Subcommittee on Young Employees recently participated. The study was designed "to find out what were considered to be the most important factors making up the present environment and the effectiveness of the various field installations in dealing with these factors," according to C. A. Syvertson, Ames Deputy Director and current member of the NASA Personnel Management Review Committee (PMRC).

The study — originally requested by Dr. George Low who was concerned about the current agency work environment — was conducted at each Center including Headquarters. Ms. Cindy Smith of Systems Studies Division was the Ames representative from the Subcommittee on Young Employees. She reported the results Wednesday, October 3 to an audience at Ames of 125 people.

In a recent interview Ms. Smith discussed the study's approach. The term

"young professionals" refers to the job classification AST (Aerospace Technology) 200, 600, 700 and 900 which includes Administrative, Life Sciences and Aerospace. A questionnaire was first drawn up and sent to young professionals Agency wide to find out the areas of significance in the current environment. A group of about 10 young professionals was then called together at each Center to discuss what the work environment should be. Each group formulated a report and combined them into one main report.

An amazing discovery was made: The top 7 areas of importance (out of 22) to young professionals all over the country were the same, though not in the same order of preference. The 7 areas are: Job Security, Opportunity for achievement of personal goals, An environment for creative work, Promotion practices, Process for defining personal work goals & objectives as defined by your supervisor, Opportunity for Advancement in non-supervisory positions (Dual Career Ladder), Future and validity of programs in NASA.

The survey certainly showed that young professional are not different due

(Continued on Page 3)

15 year anniversary luncheon with Skylab astronauts

A luncheon given by local industry, the San Jose Rotary Club and the Sunnyvale, Mountain View and San Jose Chambers of Commerce took place on Wednesday, October 3 at the San Jose Hyatt House to celebrate NASA's 15th birthday. Honored guests seated at the head table included the first Skylab crew Captain Joseph P. Kerwin, Captain Charles "Pete" Conrad and Captain Paul Weitz; Mrs. Kerwin; actor Joe Higgins, Sheriff of the Dodge commercial; Dr. Hans Mark, Ames Director; Dr. Smith De France and Harvey Allen, Retired Ames Directors; Ralph H. Mehrkens, Chairman of the Santa Clara Board of Supervisors; Warren Gannon, President of the San Jose Chamber of Commerce and Fred La Cosse of Channel 11 News.

Higgins acted as Master of Ceremonies and introduced the luncheon audience of 550 people to the three astronauts. They spoke in turn on their experiences and feelings dealing with the space program.

Pete Conrad pointed out that although many members of the press often ask him how he feels "belonging to

a program no one is interested in anymore," that he thinks the public hasn't lost interest but rather it, like NASA, is focusing on the importance of direct Earth applications.

"Dr. Joe" — as Captain Kerwin is often called by his crew mates — discussed the actual studies aboard Skylab in general terms. He stated that as a physician he was particularly interested in the medical research and that he was happy to report that the results of studies done

(Continued on Page 2)

NASA-ASEE review meeting

The annual review meeting for the NASA-ASEE (American Society for Engineering Education) Summer faculty program is being hosted jointly by Stanford University and Ames on October 11 and 12. Approximately 25-30 engineering professors and NASA personnel are attending.

This past summer marked the 10th year that Stanford and Ames have jointly invited young faculty members to Ames for a summer of research. During this ten year period, approximately 200 faculty members have spent one or two summers here at Ames.

15 year anniversary luncheon

(Continued from Page 1)



SKYLAB ASTRONAUTS . . . (l. to r.) Captain Joseph P. Kerwin, Captain Charles "Pete" Conrad and Captain Paul Weitz were interviewed by newsmen before attending the luncheon in honor of NASA's 15th birthday.

on human organisms aboard the workshop were most encouraging and favorable. From a personal point of view he said the environment was pleasant and comfortable. He pointed out that, "You can do any job in Zero G that you are properly trained for just as you can perform any job you are properly trained for on Earth." Dr. Joe also stated that at times he and the rest of the crew acted just like tourists - "one minute we'd be flying over the Pacific Ocean, two minutes later it would be the Rocky Mountains and two minutes later the Gulf of Mexico - it was an absolutely incredible experience!"

Captain Weitz began his talk by announcing that he and Dr. Joe had voted Pete to be "Mr Congeniality" of the crew - "because we knew if we didn't, he'd kill us. Not really though." He went on to clarify how a crew commander is picked. "We each vote - in

our case, Dirty Dog Pete became the Commander because he voted for himself!"

Captain Weitz did gain a serious tone and discussed Earth Resource studies which he had been in charge of on the flight. He emphasized the numerous benefits people on Earth are beginning to see and experience.

Higgins ended the luncheon program on a serious note emphasizing that the main investment for the space program has been made and that the continuation of the program can only help mankind better this world we live in. Higgins himself speaks to hundreds of students weekly all around the country about safety and he knows the results of word of mouth information. He stressed that even on a one to one basis, individuals interested in supporting the program should talk about the benefits more often to others.



SEATED AT THE HEAD TABLE . . . were (l. to r.) Ralph H. Mehrkens, Harvey Allen, Captain Paul Weitz, Fred La Crosse, Captain Charles "Pete" Conrad (speaking), Joe Higgins, Captain Joseph P. Kerwin (not pictured), Mrs. Kerwin, Dr. Hans Mark, Dr. Smith De France and Dave Ditto.

Jessie Gaspar, early Ames introduction



Ames has been a part of Computer Specialist Jessie Gaspar's life for many years; but not always as an employee. As the daughter of a Lieutenant Colonel in the Marine Corps, Jessie lived at Moffett Field during some of Ames' construction. "I thought they'd never finish driving piles for the 40' x 80' Wind Tunnel! It seemed like an endless task."

When Jessie graduated from UC Berkeley with a BA in History she thought that the only natural thing to do was to land a job at Ames. Her educational background and her strong interest in math allowed her to become a math aid. Jessie's first job was a position in the 16-Foot High Speed Wind Tunnel.

Through various math and computer courses taken at Foothill College, San Jose State and "on-the-job programming," Jessie became a digital computer programmer and transferred to what is now known as the Computation Division. She later became a mathematician. In the position she now holds as a Computer Specialist, the majority of her time is spent monitoring computer softwares contracts---four of them to be exact. The contracts are in the areas of Aeronautics, Research Support, Life Sciences and Astronautics. There are multiple jobs within each field.

Jessie enjoys her work at Ames and especially enjoys working with people. She comes in contact with lots of different people daily. Jessie feels that although promotion opportunities for women in the math field at Ames have been harder to achieve than for men, the traditional barriers are in the process of change.

Jessie is active in activities outside the computer related field. She is Vice President of the ARA (Ames Recreation Association) and also past Secretary. She is currently an EEO specialist and has served as an EEO counselor. Jessie is also affiliated with the Palo chapter of AAUW (American Association of University Women). AAUW sponsors many fellowships and brings many college and post-graduate students from all over the world to study at local universities. Jessie enjoys golf and has played in Ames Golf Club tournaments.

Travel is one "hobby" Jessie is particularly interested in. "I probably inherited the 'travel bug' from my father and the fact that we traveled a lot due to his career." Though her job does not offer much travel opportunities, she has spent many vacations traveling abroad. Jessie has made three trips to Europe and one to the Orient---"Where I lived at one time," she adds. Jessie is looking forward to the upcoming Mexico trip which many other Ames employees will be joining in November.

Item of interest

Katheleen Thurman, ASP branch, had a triple reason for watching the landing of the Skylab II astronauts. Not only has she worked for Ames for 19 years and has seen the expansion of the space program, but her brother and nephew are members of the recovery ship *New Orleans*."

Room 142
Admin. Mgt. Building
Phone 965-5422

astrogram

The Astrogram is an official publication of the Ames Research Center, National Aeronautics and Space Administration, Moffett Field, California, and is published bi-weekly in the interest of Ames employees.

Editor Meredith Moore
Reporters NASA Employees

Deadline for contributions:
Thursday between publication dates

2 employee announcements

This Center has been advised by General Services Administration through NASA Headquarters, that because of severe shortage in the paper market, it is becoming increasingly difficult to obtain tablet paper. The severity of the shortage is worse for yellow paper.

Memorandum Pad, Federal stock number 7530-286-6173, legal size memorandum pad on yellow paper is one of the items affected. For the current fiscal year, this legal size pad will be procured in both yellow and white paper. What we will receive, and consequently what we will issue to Ames users will depend upon what item G.S.A. has available.

remember - - -

Stamps must be put on all personal mail leaving the Center. An increasing number of people are mailing envelopes without stamps. These will no longer be accepted by the Ames Mail Room. Please be more careful.



JETSETTERS CLUB

Forty Ames employees, all members of the Jet Setters Club, left October 8 for 10 days in Dubrovnik, Yugoslavia. The group will have a 3 hour stop in Shannon, Ireland where they can avail themselves of one of the world's largest duty free ports and then on to Dubrovnik where they have 8 days to "do their own thing!"

The Mexico trip, November 24th, is still available if anyone is interested. It includes 3 nights in Mexico, 1 in Taxco and 3 in Acapulco.

Plans for 1974 will be announced within the next couple of weeks and if you are not yet a regular member and wish to join so that you can receive advance notices of trips, send \$1, your name, home address and Ames address to m/s 233-2 or 241-8.



JOHN C. MACGUIRE (r.) . . . 17-year-old Army Award winner, International Science Fair, holds a section of a model of an acoustical building under development at the Ames Directorate, Army Air Mobility R&D Laboratory (AMRDL), where he worked six weeks this summer as an engineering aid. Dr. Richard M. Carlson (l.), Chief of AMRDL's Advanced Systems Research Office, was instrumental in placing John with the Ames Directorate. Dr. Irving C. Statler (center), Director of the Ames Directorate, arranged and supervised MacGuire's summer research activities.

"Penalty for private use \$300"

All employees are reminded that official mail relating exclusively to the business of the Government is Federal Government mail and should not be used for private correspondence. This applies to pre-printed postage and fees paid envelopes and labels provided for official mail of NASA. For example, a NASA employee submitting his experience resume to another Federal agency to apply for a vacant job must use private mail for the purpose; such correspondence is not classed as official business. Most of us should be qualified to ascertain what is official business and what is private.

Remember, whoever makes use of any official envelope, label, or endorsement authorized by law, to avoid the payment of postage on his private letter, packet, package or other matter in the mail, is subject to a fine of up to \$300.

VENDING-SERVICE-REPORT

Help us to provide better service by reporting all vending machine malfunctions promptly. Complete this form and mail to Vending-M/S 241-12.

DATE _____ TIME _____

MACHINE NO. _____ LOCATION: BLDG _____ FLOOR _____

PROBLEM: (or SUGGESTIONS) _____

NAME _____ M/S _____ EXT _____

REFUND AMOUNT REQUESTED _____ pickup mail*

* Refunds may be picked up at the ARA store on Tuesdays and Thursdays from 11:45 to 12:30. We assume no responsibility for refunds requested by mail.

"Help us help you"

The above form will be put into use for requesting Vending refunds and reporting vending problems. We will be removing the familiar brown envelope and leaving a supply of forms at each machine. Refunds can either be mailed or picked up at the ARA Store.

We request your cooperation in using these forms as they will enable us to develop a history of problems so that the necessary action can be taken. In addition to completing the form you may phone Canteen at 961-5421 to report the problem.

If all of the above fails, please do not kick or beat on the machine but call Joanne MacArthur, ext. 5979, or Janet Konrath, ext. 5539.

Committee report

(Continued from Page 1)
to geographic setting. In fact, their goals are very similar.

Next, the PMRC went to the individual Centers to talk to 3 different groups which included first line supervisors, branch chiefs and section heads; division chiefs; and the directorate level supervisors. The results were combined with the subcommittee report and was presented to Dr. Low. The report discusses the findings and what action - by individual Centers and Agency-wide - should be taken to improve the work environment at NASA. It was generally agreed that employees should increase their understanding of NASA and its programs and that NASA should perhaps start all over in the area of publicizing its work.

Both reports are available through Ms. Smith's office (m/s 202-7) and employees are urged to seek the information.

Ames Welfare Club elects officers

A new Executive Committee for the Ames Welfare Club has been selected. Committee members include: Bill Carlson, Thermal Protection Branch; Clyde Allen, Experimental Investigations; Robert Christian, Wind Tunnels; Ed Fontes, Chemical Research Projects Office; Eva Turenchalk, Research Equipment Engineering; and Helen Faber, Inventory Control.

Anybody wishing to become a member of the Welfare Club, please contact any of the six officers. More information about the club will be published in the near future.

Speakers Bureau

by Barbara Busch, Manager

James Connolley, Electro-Systems Engineering Branch, will give a medical electronics demonstration to the third grade students of Whisman School in Mountain View, October 16.

The program arranged for the teachers aerospace education workshop being held in Butte, Montana, includes a telelecture on biomedical instrumentation by Sal Rositano (Electro-Systems Engineering Branch). The telelecture is scheduled for October 23.

Louis Kunz, Astrophysics Branch, will deliver a seminar on October 15 to the Physics Department at San Francisco State University. His subject "Infrared Astronomy."

William Hurley, Regional Inspector, NASA Hq. Inspections Division, has been asked by the Belmont Rotary to summarize the Skylab program for that organization, on October 9.

Dr. Hans Mark and Lt. Col. Alfred Worden will help preside at the official opening ceremonies of the Oakland Street Academy on October 13. The Oakland Street Academy is a community effort to rekindle interest in education for "drop-outs" in the Oakland area.

AIAA to meet

The AIAA (American Institute of Aeronautics and Astronautics) will hold its October Dinner Meeting at the St. Francis Yacht Club, San Francisco Marina, on October 25 at 7 p.m. A no-host social hour in the Model Room will begin at 6 p.m. Please call Debbie Nose 968-9457, on or before, Monday, October 22.

Golf

An individual point-par tournament was held on September 29 at the Santa Teresa golf course. The winners of the four flights as reported by the tournament chairmen Ruben Ramos and Mike Orozco were:

First Flight: P. Kutler, 1st; T. Aljuela and G. Lazzeroni tied for 2nd and 3rd. F. Lazzeroni, Low gross.

Second Flight: K. Souza, 1st; B. Eddy, 2nd; and C. Turnbull, 3rd. H. Mathews, Low gross.

Third Flight: D. Johns and C. White tied for 1st and 2nd; E. Tischler, 3rd. A. Lopez, Los gross.

Fourth Flight: P. Strawbridge, 1st; H. Mulkern and B. Hurley tied for 2nd and 3rd. B. Sheaffer, Low gross.

O. Koontz and F. Cabebe (guest) won the closest-to-the-pin on the 3rd hole.

The next regular tournament will be held on November 3 at Las Positas. Anyone interested in playing, please contact C. White (ext. 5438) or Bob Sheaffer (ext. 5965).

Thank You

To all my Ames friends,

I want to thank all of you very, very much for the luncheon and gifts honoring my reassignment to Headquarters. I am exceedingly grateful for all the friends and personal contacts I have developed at the Center and I will make good use of my "clock" to keep track of the time until my return. Thank you all once again.

Gratefully,
Bob Nysmith

Sportsmen Club

The Ames Sportsmen Club's Business Meeting will be Tuesday, October 16, at 11:45 a.m. in Building 213, room 261. Dick Claeys will talk on his recent Alaskan hunting trip.

Want Ads

Transportation

FOR SALE

63 Volkswagen, light green, exc. cond. Call Gloria after 5 p.m. 964-8909 or ext. 5827. \$400/offer.

70 Honda 90, 600 miles. Like new, call after 5. 356-2368

67 Valiant, 4-Dr., 6 cyl., \$250 or best offer. Call Pat at 965-2238 after 4 p.m.

1963 FAIRLANE 6, stick shift, 16-20 mpg. Good tires, brakes, recent ring job. \$125, ext. 6315.

'68 Impala Chevy, P/S, P/B, air, 52,000 mi., \$850, call 968-4521.

Toastmasters' officers

Several Ames employees have been elected as officers of the Jetstream Toastmasters Club for the Fall semester. They are: Guy Ferry (Planetary Science Applications Branch), Educational Vice President; John Cowley (Systems Development Branch), Administrative Vice President; and Miles Murphy (Man-Machine Integration Branch), Secretary-Treasurer.

Toastmasters offers an inexpensive and enjoyable way to improve speaking and listening skills. The Jetstream Club has luncheon meetings every Wednesday at Kozy's Cuisine in Mountain View. Further information about the club can be obtained from the above members.

68 Ambassador. Very good cond., clean, P/B, P/S - air. 294-7697.

73 Chev. Camper Special Crew Cab, long wheel base, AC, PB, PS, radio, 3,500 miles. 364-0782 after 5 p.m.

Miscellaneous

FOR SALE

VTVM, HEATHKIT IM-18, fully assembled and tested, never used. \$40 948-2944

Motorcycle parts: Tires 3.50 X 19 & 4.00 X 18; Fairings-silver or white; 32" motorcross bars; Honda cyl. heads; Gas tank & etc. S. Yem 322-6557

Twin Bed with frame, very good condition. \$25. Call 321-1858

ZENITH 19" TV w/ stand. 10 yrs old. Works but picture "squashed" vertically. \$15. 248-5546

Pistol; Ruger Blackhawk 357 Mag w/ holster, belt, cleaning kit, some ammo & brass. \$95 or consider trade for 20 ga double shotgun. J. Hallam 264-0942/6319.

Ski Boots, two pairs, 5 buckle, Mens size 8 \$35; Mens size 10 \$25. David Raithel 739-3858

K2-3 204 cm, Mrkr. M-4 toe & Rotomat heel. Used one season. Good condition. \$120. Call 252-4749.

Kaz 12-hr Vaporizer Humidifier - never used. \$4. Call 321-1858

Club bag, little used, new one costs \$19, sell for \$12. Call 321-1858

Gas Dryer, \$25; Washer, \$85; Elec. Stove, \$25. Bath tub clamp on rail for senior citizen, \$5. Schillerstrom 293-4439

Four extra wide chrome rims and tires. 6 Lug. Size 11-15. Delta Supreme Nylon Tires. \$75/offer, 296-5993

Child's 1 to 5 snow & ski clothing: Ski boots, snow boots, sweaters, gloves, 1-pc. suits, pants & etc. Dottie Yem 322-6557

Blender, one speed \$5; Electric Percolator \$5; 3 tapestries \$5 each; Electric, portable heater \$8; Table lamp & shade \$8. Call 257-7454

Almost new, half price!: 4 twin beds, Hoover vac., lamps, 3 fluorescent fixtures, table, desk, call 968-4521

Electric, portable heater \$8; Electric Fry Pan \$15; Coffee Table, mahogany \$15. T.V., 23" Sylvania, portable w/ stand. B&W \$60. Call 257-7454

IBM SELECTRIC II Typewriter with 3 elements - like new - call Joan 965-6440

CABIN RENTAL: S. Tahoe, 2 Bath, sleeps 8, w/w carpet downstairs, central heating, \$50 weekend, \$130 week, Sinnott. 225-8043.

CAR POOL:

Would like to set up a car pool (daily or part time) between Ames and Remington-Bernardo region of Sunnyvale - call 739-4443

WANTED: CAMPER SHELL & wheels. - 8" for Chev P.U., 6 Lug. Schillerstrom 293-4439

FREE: Fluffy kittens, assorted markings. Call Linda, X-5410 or 964-2419 or Sandy, 964-7372.

Going on vacation? Resp. "house sitter" w/ exc. ref. avail., 948-9399.

Female wanted to share two bedroom, two bath duplex in Cupertino foothills. \$125/ea. Call 257-4971 after 5:30 p.m.

WANTED: 3 roommates need one refrigerator, in working condition, in order to get rid of 1910 antique. Contact Allison, x-5622.

get on the band wagon, transfer your old records



RECORDS ROUNDUP



National Aeronautics and Space Administration • Ames Research Center, Moffett Field, California

33 years of research

This month marks Ames' 33rd year anniversary. Originally named the "Ames Aeronautical Laboratory" and constructed under the authority and direction of the National Advisory Committee on Aeronautics (NACA) in 1940, the facility was to function strictly as a research laboratory in the field of aerodynamics where high-speed aerodynamics in particular would be emphasized. Ames' namesake was Dr. Joseph S. Ames, Chairman of NACA from 1927 to 1939. Dr. Ames was an original member of NASA since its formation. He was a man of great integrity and ability.

Excavation for the laboratory began on December 20, 1939. By August 30, 1940 the Ames staff numbered 52 employees - two of whom are currently working at Ames: John Delaney and Alvin Hertzog.

John Delaney, now Ames' Assistant Procurement Officer, began work at Ames on April 1, 1940 as an Assistant Messenger. Delaney, born in Pennsylvania and the son of a serviceman, performed all kinds of jobs. He was a "Jack of all Trades" in his early career at Ames; he says, "The 'Assistant Messenger' title meant I did anything that had to be done - from handling mail and purchasing to being rod and chainman on a survey crew."

In 1942 Delaney was drafted to serve in World War II. He returned to Ames in 1946 to the Purchasing Department where he is working to this day.

In a recent interview Delaney told briefly of long-time employee Al Hertzog's career at Ames since (Continued on Page 2)

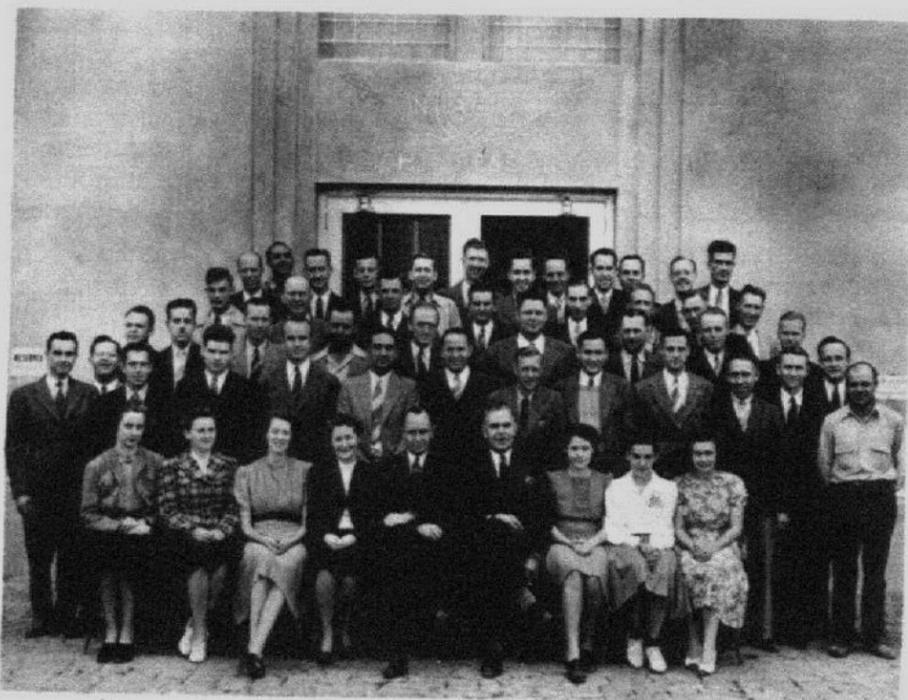


Ames scientist discovers new form of growth hormone in plasma

At the Symposium on Growth Hormone, held in Baltimore on October 9 to 12, Dr. Richard E. Grindeland introduced a radically new theory concerning the nature of growth hormone which is released into the plasma of man from the pituitary gland. The experimental evidence obtained by Dr. Grindeland demonstrates that the hormone which circulates in the blood is chemically different from that in the pituitary gland, where the hormone is synthesized and stored for future requirements during conditions of stress. Dr. Grindeland demonstrated that the current radio-immunological methods which are being widely used both clinically and in research detect only a minute fraction of the true concentration of growth hormone in the blood. Because of this limitation radio-immunological methods may be seriously misleading since they report decreases in growth hormone of experimental animals, whereas the true levels of the hormone in blood are clearly increasing.

Growth hormone regulates fundamental life processes such as bone growth and maintenance, protein formation, mobilization of fat and the metabolism of sugar. Therefore, knowledge of the true concentrations and change of the growth hormone in plasma is extremely important both for theoretical and practical reasons. The Symposium suggested Dr. Grindeland's contribution would have a profound impact on our understanding of growth hormone physiology.

Dr. Grindeland's discovery originated in a basic research program of the Biochemical Endocrinology Branch to determine the effects of physiological stresses such as acceleration, simulated weightlessness, chemical agents, thermal extremes and nutritional status. Dr. Grindeland, in collaboration with Dr. Ellis, is now undertaking a chemical isolation and characterization of the modified form of the hormone in plasma in order to develop an accurate and simple method for its measurement in individuals exposed to the above-mentioned physiological stresses which are encountered in manned space flights as well as aeronautics.



AUGUST 1940, AMES STAFF... included

FRONT ROW, L-R: Mildred U. Nettle, Margaret A. Willey, M. Helen Davies, Marie W. St. John, Smith J. De France, Edward R. Sharp, Mamie G. Poole, Virginia Burgess, Roselyn A. Pipkin

SECOND ROW, L-R: Arthur B. Freeman, Thomas W. O'Briant, Lesslie T. Videll, Clyde F. Wilson, R. Mayo Foster, Manfred C. Massa, Manley J. Hood, Carlton Bioletti, Charles W. Frick, Walter G. Vincenti, Howard W. Kirschbaum, Lewis A. Rodert, Eugene C. Braig, Carl Gerbo

THIRD ROW, L-R: Rowland E. Browning, Donald H. Wood, Robert S. Hughes, George Bulifant, James V. Kelley, Harvey J. Allen, John P. Houston, Karl S. Burchard, Mark A. Greene

FOURTH ROW, L-R: Andre G. Buck, Edward W. Betts, Raymond E. Braig, Harry J. Goett, John F. Parsons, Herbert S. Dunlap, Lysle E. Minden, Frank J. Clarke

FIFTH ROW, L-R: Walter O. Peterson, Wilson Walker, Charles H. Harvey, John C. Delaney, Jr., Thomas W. Macomber, Alan L. Blocker, Noel K. Delany, Alvin S. Hertzog, Ferril R. Nickle, Paul T. Prizler, Ross R. Benn, Edward H.A. Schnitker

New faces at Ames

Many of the new faces that you have been seeing around the Center belong to students from the Fremont and the Mountain View-Los Altos Union High School Districts.

The students are here on an exploratory work experience education training program which is headed by Meredith Moore of the Training and Special Programs Branch.

field of interest. Oftentimes a student is undecided and needs to be exposed to the working world in order to form some concrete opinions. On the other hand some students find that what they originally thought was a glamorous job may prove to be a boring and extremely routine job on a daily basis. Or perhaps a student will learn that his/her abilities were not as keen in a particular area; in



DENISE BERNARD . . . of the Training and Special Programs Branch "pastes up" an "Astrogram" at the drafting board. Denise is a junior at Mountain View High School.



DAVE HAWKINSON . . . of Guidance and Navigation Branch programs a voice synthesizer to say "words," i.e. aeronautical terms. Dave is a junior at Lynbrook High School.

The program requires that the student be a junior or senior and take all the yearly required subjects so that he/she can use the Ames work experience as an elective course which is comparable to 10 credits or 2 classes. The students are also informed upon submitting their application that they work for credits and not for pay.

The students are placed in many different positions around the Center. All the positions are in some way related to the field that the students are most interested in and are taking classes in at school. Many students even plan to major in the field at college and later make it their profession. The students work 15 hours a week and may use buses provided by the districts or private transportation.

But really the main purpose of the program here at Ames is to give the students valuable on-the-job training and the opportunity to explore their chosen

this instance the student will be reassigned to a new job site and the program is termed a success.

However, the majority of the students usually confirm their original ideas and enthusiasm builds up in their area of interest.

There are presently 60 students and 45 Ames supervisors participating in the program. Mrs. Moore in the training office stated that the students are doing an excellent job now that Ames is one month into the Fall '73 program. "The students," says Mrs. Moore, "are not only contributing their time and effort to the whole Ames picture but they are also learning the meaning of responsibility and punctuality which are so important in the work world. On the whole our group this year is conscientious and enthusiastic as are the Ames supervisors who in effect make the entire program possible because of their energetic cooperation."

33 years of research

(Continued from Page 1)

Hertzog was unavailable (he's presently enjoying a trip abroad). Hertzog began his career in the "Purchasing Department" of Ames as did Delaney. He became Chief of what is now known as the Procurement Division in 1942 and has just recently become the Assistant Director of Administration for Management Analysis and Special Programs. Hertzog joined the Marines the end of 1942 and was commissioned in the paratroopers. He was wounded on Iwo Jima and was discharged in 1945. Once he recuperated, Hertzog returned to Ames to his same position. Hertzog and Delaney can both vouch for the fact that there are very few "old-timers" left at Ames dating back to the 1940's. However, many of us remember others



John Delaney

who can be found in the first staff photo (pictured on this page) such as Helen Davies, Marie St. John, Dr. Smith De France and H. Julian Allen.

Both John Delaney and Al Hertzog are extremely active men. Delaney enjoys making telescopes and has developed a number of them - he is especially interested in the optical end of the process. He also enjoys photography as a hobby. It can be said of Hertzog, on the other hand, that travel is his main hobby. Hertzog's daughter is a Pan Am stewardess and "Dad" receives nice family travel benefits; his son-in-law is a pilot for Pan Am so it really runs in the family!

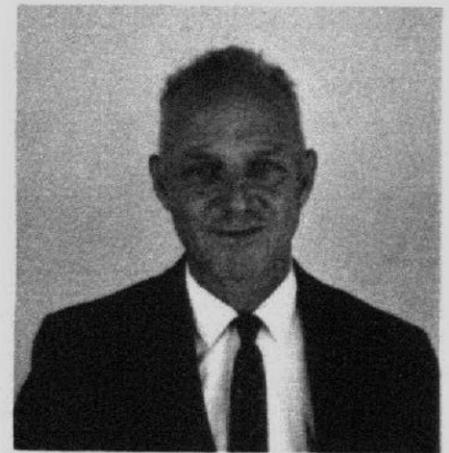
When questioned of Ames' formative years Delaney reminisces of the first sites built at the laboratory. One of the high-priority items was a 16-foot wind tunnel (now the 14-foot) which would develop airspeeds of 500 mph or more. This facility was needed to deal with the design problems of high-speed airplanes then being developed for the Army and the Navy. Two 7- by 10-foot wind tunnels were needed for the 250 to 300 mph speed. It was also decided that a so-called "full scale" 40- by 80-foot wind tunnel would also be constructed. Since the 40- by 80-foot would require time to design and build, the 7- by 10-foot tunnels and the 16-foot were tackled first. The 12-foot low turbulence

pressure tunnel was also under consideration but it, like supersonic tunnel being determined, would have to wait. Aside from the 7- by 10-foot tunnels, all the wind tunnels presented a very real challenge to designers.

The war naturally quickened the pace and helped rationalize all the construction funds at Ames. Many administrative personnel types were drafted and left Ames temporarily while lots of research scientists were drafted and remained at the Center during the war years for research purposes. Those returning after the war years often times found themselves working for people who had worked under them before the war! Some women also quickly gained responsible positions with the war interruption.

Delaney states that one of the biggest changes he has experienced through his Procurement employment years at Ames is the large amount of research that is contracted out now; during the early Ames days all research was done in house. There are many more service contracts since the 1958 switch to NASA. "Of course we always had some service contracts . . . especially with typewriter and adding machine repairs! We've never done our own in that area!" says Delaney.

The old days of retirees like Dr. Smith "Smitty" De France, H. "Harvey" Julian Allen (both former Directors), John F. Parsons, Dr. E. R. Sharp, Ferril



Alvin Hertzog

R. Nickle and Helen Davies are gone . . . as are the P-80's, P-51's and the C-46 . . . but the work and the memories of those exciting and irreplaceable early days linger on and affect the future of NASA's Ames Research Center.

Room 142
Admin. Mgt. Building
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astrogram

The Astrogram is an official publication of the Ames Research Center, National Aeronautics and Space Administration, Moffett Field, California, and is published bi-weekly in the interest of Ames employees.

Editor Meredith Moore
Reporters NASA Employees

Deadline for contributions:
Thursday between publication dates

Omura back at Headquarters



Dr. Masayuki Omura is back at Headquarters in Washington D. C. bearing the title of Program Manager, Data Systems in the Guidance Control and Information Systems Divisions.

Prior to Dr. Omura's positions in Washington, he was working here at

Ames.

As for his earlier education, Dr. Omura obtained a B. S. degree and M. S. from M.I.T. He joined Ames in 1967 upon completion of his Ph.D. at Stanford University in electrical engineering and has conducted research in shock waves, plasma diagnostics, microwave radiometry, and avionics. Most recently he became a member of the Avionics Branch at Ames Research Center when he was engaged in the microwave landing System Program. He was one of NASA's representatives to participate in the National M.L.S. program Phase 1 contractor evaluation held at F.A.A. Headquarters in Washington D. C. from September to November 1972. He has also written technical papers on Plasma Diagnostics and shock wave percursor.

Dr. Omura, his wife Claire, and daughters Jeanne and Anne are currently residing in Falls Church, Va.

Contractor's reports due

Under a statute enacted by Congress (sec. 7, Public Law 91-303), NASA employees formerly employed by certain aerospace contractors are required to submit a report, containing information specified in the statute. Personnel who were formerly employed by any of the aerospace companies listed below are required to file such a report by Nov. 15, 1973, if they also meet the following criteria:

1. Employment with the listed aerospace contractor terminated on or after July 1, 1969; and
2. Salary rate during employment with the listed aerospace contractor was \$15,000 per annum or more; and
3. NASA salary rate during FY 73 was equal to or greater than GS-13.

Additional information and NASA forms 1480 may be obtained from and should be returned to the Records and Reports Branch, Mail Stop 241-5.

Failure to file report is punishable by a maximum of six months imprisonment or a fine of not more than \$1,000 or both.

AEROSPACE CONTRACTORS - Recipients of Direct NASA Awards; 1973

The following is a list of aerospace contractors which received direct NASA awards totalling \$10 million or more in Fiscal Year 1973. This list is published pursuant to section 6 of Public Law 91-119, as amended by section 7 of Public Law 91-303 (84 Stat. 372; 42 U.S.C. 2462, 1970 Suppl.)

- The Bendix Corp., Bendix Center Southfield, Mich. 48076.
 The Boeing Company, 7755 East Marginal Way, Seattle, Wash. 98124.
 California Institute of Technology, 1201 E. California Blvd., Pasadena, Calif. 91109.
 Chrysler Corp., P.O. Box 757, Detroit, Mich. 48231.
 Computer Sciences Corp., 650 Sepulveda Blvd., El Segundo, Calif. 90245.
 Fairchild Industries, Inc., Sherman Fairchild Technology Center, Fairchild Drive, Germantown, Md. 20767.
 Federal Electric Corp., 621 Industrial Ave., Paramus, N.J. 07652.
 General Dynamics Corp., Pierce Laclade Center, St. Louis, Mo. 63105.
 General Electric Co., 570 Lexington Ave., New York, N.Y. 10022.
 Grumman Aerospace Corp., South Oyster Bay Road, Bethpage, N.Y. 11714.
 Honeywell, Inc., 2701-4th Ave. South, Minneapolis, Minn. 55408.
 Hughes Aircraft Co., Centinela & Teale Street, Culver City, Calif. 90230.
 International Business Machines Corp., Old Orchard Road, Armonk, N.Y. 10504.
 Kentron Hawaii, LTD., 233 Keawe Street, Honolulu, Hawaii 96813.
 LTV Aerospace Corp., P.O. Box 5003, Dallas, Texas 75222.
 Litton Systems, Inc., 360 North Crescent Drive, Beverly Hills, Calif. 90213.
 Lockheed Electronics Co., Inc., U.S. Hwy. 22, Plainfield, N.J. 07061.
 Lockheed Missiles & Space Co., Inc., P.O. Box 504, Sunnyvale, Calif. 94088.
 Martin Marietta Corp., 277 Park Ave., New York, N.Y. 10017.
 Massachusetts Institute of Technology, Massachusetts Ave., Cambridge, Mass. 02139.
 McDonnell Douglas Corp., P.O. Box 516, St. Louis, Mo. 63166.
 Northrop Services, Inc., 500 E. Orangethorpe Ave., Anaheim, Calif. 92801.
 Philco-Ford Corp., Parklane Towers East, Suite 728, 1 Parklane, Dearborne, Mich. 48126.
 RCA Corporation, 30 Rockefeller Plaza, New York, N.Y. 10020.
 Rockwell International Corp., 600 Grant St., Pittsburgh, Pa. 15219.
 Sperry Rand Corp., 1290 Ave. of the Americas, New York, N.Y. 10019.
 TRW, Inc., 23555 Euclid Ave., Cleveland, Ohio 44117.
 United Aircraft Corp., 400 Main Street, East Hartford, Conn. 06118.

Barbara Busch, Educational Specialist

Barbara Busch is one of Ames' very ambitious women professionals.

Barbara is an Educational Specialist in the Educational Programs Office, which is part of the Public Affairs Office here at Ames. Her career started at the campus of the University of Illinois, from which she graduated in 1960 with a Bachelor of Arts degree in the Teaching of English. She taught junior high school English for three years and did graduate work at the University of Illinois and at Northern Illinois University. Barbara was employed in personnel work at Reese Air Force Base in Lubbock, Texas, for a while, and then joined Ames in 1966 as the Personnel Division Secretary. She moved to the Public Affairs Office as an Educational Specialist in 1967.

Barbara says that education "turns her on" and she feels her job at Ames is very much like teaching ("even though I never got a California teaching credential," she points out). One of the projects that Barbara is working on at Ames is the Student Space Biology Research Program. This program involves high can in any given field that they themselves have chosen. Women haven't always had a good opportunity to go as far as their potential would allow, but it is getting better." Barbara continues that, "All we're trying to do is get the job done for NASA, and we should all accept one another whether we have a mustache or a mini skirt."

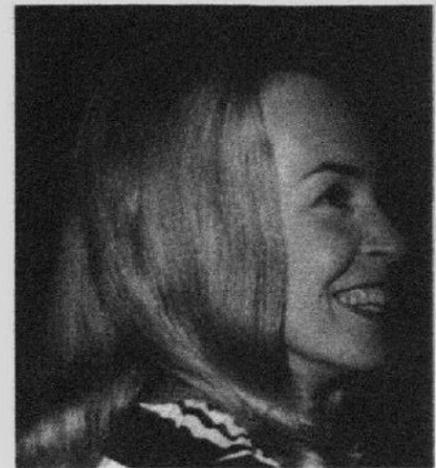
As for Barbara's very busy social life, she is a member of the Ames Ski Club, the Ames Jetsetters travel club, a member of a national music organization called "The Sweet Adelines" and the newest member of the Jetstream Toastmasters Club. She lives in Sunnyvale with her kitty "Popoki" in a condominium she recently purchased.

"A Funny Thing Happened . . ."

A (not too) Funny Thing Happened on Tom Hammond's Way from Bowling Tuesday evening two weeks ago. Hammond, Assistant Chief of Services and Supply Division, walked out to his car after a long day of work and recreation and his little yellow MG was no where in sight! By the following Saturday the Sheriff's Department had retrieved the car. Though the radio was missing Hammond was delighted to have the car back and in working order.

Another Tuesday evening rolled around and off went Hammond to bowl with the Ames League. You may have guessed it by now! The thief (perhaps a new one) struck again even though the car was parked next to the front entrance in a well lighted area.

When asked if he is considering a different form of recreation Hammond replied, "You'd better believe it. Perhaps ping pong or something that is walking distance from home!"



school students from Santa Clara County who are brilliant in science. Barbara has the very strong feeling that these students are an example of America's productive citizens of tomorrow, because they want to learn. "This sort of program excites me; anything connected with education excites me," states Barbara.

As an additional part of her job at Ames, Barbara is Manager of the Ames Speakers Bureau, which handles presentations on NASA's space programs to professional, educational, civic and social organizations in the 11 Western states . . . and Barbara considers this education, too, i.e. adult education. "No one is ever too old to learn."

"It has been pretty hard for women at Ames to move into professional jobs, because traditionally people (most management being men) think of women in terms of a few selected occupations: mothers, teachers, clericals, etc. I do believe that all of us want to advance, and I think that everybody should have the opportunity to develop as far as they

Helicopter Society

The San Francisco chapter of A.H.S. will hold its first "dinner and lecture" at Dinah's Shack on Oct. 30 at 7 p.m. Contact Marilyn Veasman, ext. 5578 for details.

Our 16th year

"The Astrogram" begins its 16th year of publication with this issue.

Special "Thank You's" are in order at this time and are extended to the Reproduction Services and the Photographic Technology Branches for their continued support in the publications of this bi-weekly newspaper.

Ames employees who have contributed news-worthy items throughout the year are also given a special note of recognition and appreciation at this time.

"The Astrogram" will continue to report Center news and major NASA-wide happenings. Contributions and suggestions will always be welcomed.

The Editor

Meredith Moore

Speakers Bureau

At the first meeting of the Student Space Biology Research Program participants at Ames on October 15, Dr. Don DeVincenzi welcomed the participants on behalf of the Life Sciences Directorate. A number of scientists at Ames, primarily in the life sciences field, will be making presentations to this special high school student program. Dr. Paul X. Callahan is Director of the program.

Thomas Carson (Systems Analysis - Flight Systems Research Division) will be talking to a class of high school biology students at Lynbrook High School on "My Life as a Scientist for NASA" on October 26.

Fred Baker (Avionics Research) will be the keynote speaker for the Fall Conference of the California Council of Electronic Instructors on November 3 in San Mateo. He will discuss Skylab.

Mike Wash (Avionics Research) will talk to two combined fourth-grade classes at the Hacienda Elementary School in San Jose on October 25, on the general area of manned space flight.

Bowling

The All Ames Basketball League will start play for the 1973-74 season on October 24 at Sunnyvale High School. There are nine teams in the league and three games are played each Wednesday evening starting at 7:00 p.m. For further information contact Bruce Ganzler, x5169.

Golf

The Director's Cup tournament was held on October 13 at the Riverside golf course. Paul Kutler won the Director's Cup as he came in with the lowest net-score for the day. Congratulations, Paul! The other winners for the four flights as reported by the tournament Chairmen Don Humphrey and Sal Tardio were:

1st Flight: T. Almojula, 1st; R. Ramos, 2nd; and R. Hedlund and O. Koontz tied for 3rd.

2nd Flight: P. Kutler, 1st; L. McCulley, 2nd; and M. Orozco, V. Oyama and D. Humphrey tied for 3rd.

3rd Flight: M. Radovich, 1st; A. Lopez, 2nd and C. Eddy, 3rd.

4th Flight: B. Hurley, 1st; A. Joly, 2nd and S. Johnson, 3rd.

The winners of the closest-to-the-pin contest on hole #12 for the four flights were T. Almojula, C. Turnbull, C. White and B. Sammond respectively.

The next regular tournament (Turkey Shoot) will be held on November 3 at Las Positas. Anyone interested to play please contact C. White (Ext. 5438) or Dave Banducci (Ext. 5152).

Conrad McCloskey (Electro-Systems Engineering) talked to the San Francisco Electric Club on October 15, also on Skylab.

Patrick Cassen (Theoretical Studies) presented "Thermal History of the Moon" to the Lawrence Livermore Labs, on October 16.

Dr. Keith Kvenvolden (Chief, Chemical Evolution Branch) talked to the Unitarian Church in Sunnyvale, October 14. His presentation was entitled "Evolution: Neither Fact Nor Fiction". Also, on October 11, he addressed students at DeAnza College as part of their Student Lecture Series, on the general field of chemical evolution.

Dr. David Black (Theoretical Studies) addressed the Physics Department of the University of California/Berkeley on October 23. His presentation: "The Christmas Comet - A Discussion of Forthcoming Observations".

Lt. Col. Alfred Worden (Chief, Systems Studies Division) addressed two groups recently. On October 16 he talked to the U. S. Navy Aerospace Physiology Banquet's annual meeting held at the Moffett Naval Officer's Club. And on October 18 he addressed the meeting of the Navy League of Santa Clara County also held at Moffett.

Jan McMillin (Neurosciences) discussed Ames life sciences, as well as giving a quick overview of Ames, to the DeAnza Chapter of the American Business Women's Association, on October 23rd.

Transportation

FOR SALE

65 DODGE CUSTOM 4 DR. SEDAN, PS/PB, automatic transmission, AC, heater, radio, new brakes, good condition. \$450, call L. Locher, 253-2779

'72 Dodge Crestwood Wagon. 9 passenger, A/C, rack. \$3349 or best offer. 354-7187

'71 KAWASAKI - 70 cc mini-motorcycle. Like new, street licensed. \$150. 738-2931 or x5841

Housing WANTED TO RENT

Apt. for bachelor research associate willing to share. Starting Dec. 1. Call John Rakich x6192.

Dr. Jim Lawless (Chemical Evolution Branch) presented "Computerized GC-MS Techniques in the Analysis of Organic Compounds in Meteorites" to Northern California Section of the Society of Applied Spectroscopy in San Francisco on October 11.

A number of science students at Lynbrook High School are requesting Ames scientists to talk to Lynbrook's biology classes. Parents, friends, and next-door neighbors: if you agree to make a presentation, also remember to let the Manager of the Speakers Bureau know. Call Barbara Busch at extension 6364.

Want Ads

Miscellaneous FOR SALE

ZENITH 21" Portable Color TV. Good Working Condition. B. Kay 967-5348 after 5:00 p.m.

Blue-Point Siamese Kittens. Pure-bred, quiet, box-trained and cuddly. \$10. 837-1139

Snow Tires, studded, Phillips 66, size L78-15, 4-ply nylon tubeless, good wide tread deluxe traction. \$15 each. Ph. 257-7454

Spectrosonic 210. Stereo Receiver. 50 RMS watts, AR 4X speakers. Reco-cut transcription turntable. \$325. All exc. cond. 226-3296, Darrell

WANTED: Radio control gear; transmitter, receiver, and 3 servos (more OK). Call Tom, 736-9203

3/4 or 1 ton Coffing Jack, link or Rollor chain. Will pay up to \$30. 738-2931 or x5841

MEN'S 26" Bike in good condition - Prefer BOOK-RACT but not necessary. Call Kanhai 961-1174 after 5 p.m.

CAR POOL: From Half Moon Bay, Moss Beach area; 7:30-4 p.m. shift; contact Jim Hogan 728-3477.

RIDE GROUP - Anyone interested in starting a ride group from area within about a mile radius of Westmont High School on 0800-1630 shift please contact Frank Nichols x5370.

LOST

Book belonging to NASA-Ames Library entitled, "Diesel Engine Design", London, Constable; Van Nostrand 1948. (548 pages) It is believed that the book was sent to the wrong mail stop. Anyone knowing the whereabouts of said book please contact Mrs. Margaret Lundell, x5157.

AMES ENERGY CONSERVATION PROGRAM

Pacific Daylight Saving Time Ends October 27

Ames Light Savings Time begins October 29