

View from cockpit of Galena, Alaska, landing strip

Aircraft Ops expanding Arctic sensing in winter

(Submitted by the Aircraft Operations)

Most of man's activities in the Arctic presently occur during a brief summer period when ice-free conditions exist. However, full development and recovery of the vast oil and gas resources in the Arctic region will be dependent upon development of techniques that enable year-round operation in the Arctic ice environment.

The NC-130B aircraft (NASA 929), run by the Aircraft Operations Division, returned March 27 from a three-week mission in Alaska, where it participated in the Arctic Microwave Ice Properties Experiment. More than 20 American and Canadian organizations, including NASA Lewis and Langley Research Centers, are involved in this experiment.

Specifically, the AMIPE is working to determine interactions and to develop correlations between active and passive all-weather sensors and ice phenomena for use in commercial applications in the Arctic. Data gathered is now being analyzed at a number of government and civilian facilities around the country.

According to Jim Lindemann, who is mission manager, JSC's involvement in this experiment is significant and essential. Eight people from AOD and the Engineering and Development Directorate's Experiment Systems Division, their platform (NC-130B aircraft) installed with NASA Langley sensors, went on the mission to the Arctic. They flew 22 flights in 24 days, traversing over 25,000 nautical

miles of the globe in 91 hours. The NC-130B's base of operations
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First Shuttle crew details mission objective, training

"People stop me on the street all the time and ask what is STS-1," quipped John Young in his opening statement to the Aviation/Space Writers Association press conference in Building 2 April 9.

He and Bob Crippen then went into details of the 54-hour, 150 mile orbital altitude mission of the first Space Transportation System flight.

Young is Commander and Crippen is Pilot for STS-1.

The first mission will confirm whether the vehicle will perform "the way we want it to," Robert Thompson, manager of the Shuttle Program Office, had said earlier in the briefing.

STS-2, the second flight, "will be a slight expansion of that envelope," Thompson said. "There will be a little more push in the launch, more stress on the pressure systems, etc."

"We're going to test this thing like you wouldn't believe," Young said. During that first mission they will do at least four Orbital Maneuvering System burns, propulsion system tests, avionics systems tests—"There are 40 flight objectives we'll be doing 60 times," Young said.

Crippen described computer software tasks he will perform: At certain points "we have to trade memories around with computers on the ground," he said. For instance, after the second burn, he will reconfigure the five onboard computers; after Columbia is on orbit, he will reload the computers again.

Young added they would be testing the performance of Shuttle fuel cells, which will generate the electricity, provide drinking water, and run the thermal

Enterprise to KSC

After a year of vibration tests at Marshall, the Enterprise was flown piggyback Tuesday April 10 to KSC where it will be used in "pathfinder" exercises, designed to give Space Program employees experience in handling pre-launch activities.

Chief of Aircraft Operations, Joe Algranti; Kenneth R. Haugen, JSC Pilot; and Fitzhugh Fulton, Dryden pilot flew the NASA 747 that carried the Enterprise to Florida.

"We made two touch and go landings at the Cape for pilot proficiency," Algranti said. "It was the last time

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AVIATION/SPACE WRITERS view a space suit demonstration during a recent briefing at JSC. Building 9A is now part of the Center's "Open House" tour, and visitors can view Shuttle mockups 9-3 weekdays.

Solar energy in future—Carter

(Editor's Note: Thursday April 5 President Carter addressed the nation on the energy crisis. Following are excerpts that pertain to the Space Program and government employees.)

In the future, we will use solar energy in many other ways, including the direct conversion of sunlight into electricity. We already use this method for limited purposes such as in our Space Program, but scientific discoveries will be needed to make it more useful in our homes and factories.

These steps can be part of a wider international effort. Other nations are eager to cooperate.

There are solar techniques that are economical right now. We can encourage even more rapid development and use of solar power.

Just as we harnessed American dedication and brainpower to put men on the Moon, we will make the same kind of massive, purposeful effort to achieve the goal of national energy security through technology. We must begin now so that we can regain control over our energy future.

I have asked Congress to grant me standby authority in four areas, one of which is to require that thermostats in all

commercial buildings be set no higher than 65 degrees in winter and no lower than 80 degrees in summer. As soon as I get that authority, I will use it.

Steps will be taken to eliminate free parking for government employees in order to reduce the waste of gasoline in commuting to work. I call on all employers to follow suit.

In addition, I ask each of you to take an important action on behalf of our nation. I ask you to drive 15 miles a week fewer than you do now.

One way to do this is not to drive your own car to work every day. At least once a week take the bus, go by carpool—or, if you work close to home, walk.

In years to come, we can design automobiles, buildings, appliances, and engines that serve us better and use less energy.

We can improve mass transit and make our entire transportation system cleaner, faster, and more efficient.

And we can turn increasingly toward the ultimate source of all our energy—the Sun.

Meteorites arrive today

This morning, April 20, 309 meteorites from Antarctica are arriving by truck at JSC to be loaded into freezers in Building 37. Then curatorial facility employees will begin analysis of the extraterrestrial materials, preserved in "blue ice areas" in some cases for millions of years. (See Roundup Feb. 23 story "Hunting Antarctic Meteorites.")

Robbie Score and Betty Gabel, research assistants with Northrop, have been in California this week repacking the meteorites, loading the

containers with dry ice, and preparing the boxes for shipment by air freight to Intercontinental.

John Annexstad, who camped 40 nights on the ice gathering the samples, said the transporting project managed to get through a 72-hour delay caused by airline and truckers' strikes, and the meteorites are arriving on schedule.

One sample contains 300 pounds of iron, he said, "but it will be summer sometime before we know more details."

Women to devote week to exploration

Panels, presentations to cover today's options, problems.

A focus on career planning, a panel on "Women in Crisis," and an "Ask Management" session are highlights of the four-day Women's Week program set for May 1 - 4 at Gilruth Center.

Sessions will begin at 9 a.m. and 1:30 p.m., with films at noon each day.

Tuesday, May 1, a luncheon at 12:30 will open the week, with Houston City Controller Kathy Whitmire as featured speaker.

Tuesday at 2 p.m. Chris Chemell of the Office of Personnel Management in Dallas will present "Career Planning: What Will You Do with the Rest of Your Life."

Wednesday morning Janet Stone, director of a communications consulting

firm, will appear. In the afternoon, a panel of Houston women will discuss "Do You Know Your Rights?" with Judge Ruby Sondock of the 234th District; Erie Calloway, Houston's affirmative action director; and Twiss Butler of the League of Women Voters, answering questions.

Thursday morning's session will cover the impact of personal and family decisions on workers. Marcia Elefant of the Individual Development Center will lead off with a presentation, "One is a Whole Number." She will cover some of the concerns of single adults, the formerly marrieds, and single parents.

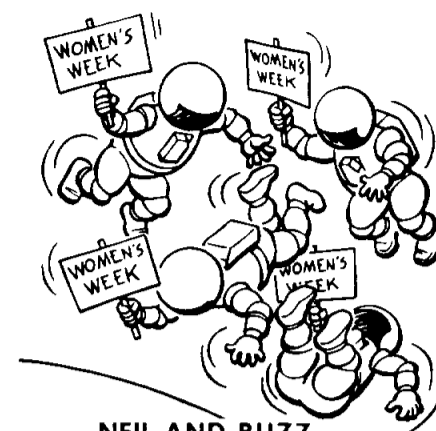
That afternoon there will be a talk on "Mothers-Daughters-Men: the Love/Pain Relationship," by Margaret Buchorn, a

psychotherapist in private practice.

At the "Women in Crisis" presentation Friday morning the subjects will be providing shelter as well as counseling and referral services for women in need. Anne Boyajean-Westin of People Against Rape and Abuse, and Nikki Van Hightower of Houston Women's Center will conduct this session.

Then capping the events of the week, George Abbey, Jack Lister, Joe Piland, and Robert Thompson will appear on a panel titled "Ask Management," Friday afternoon. Ann Sullivan will serve as moderator.

Theme of the week is Exploration, and the topics are varied and salient. The Federal Women's Program, sponsor, en-



**NEIL AND BUZZ
AND TOM AND DEKE
RETURNED TO EARTH
IT'S WOMEN'S WEEK**

JSC - MAY 1-4 GILRUTH RECREATION CENTER
Cartoon by Russ Byther

courages NASA and contractor employees — men and women — to attend the sessions.

Bulletin Board

Please limit announcements to ten lines, double-spaced copy

Join National Association of Retired Employees Today

NARFE serves the retired and the working. Federal employees 50 years of age or over, with at least five years of service, are eligible for membership in NARFE. Call Jack Kinzler 334-2449, A. B. Olsen 334-3270, or Shell Martin 471-0490 for more information.

Graphics in 16 Colors and a Minifloppy Disk Drive

The CompuColor II personal computer will be demonstrated at the next meeting of the JSC Computer Hobbyist Club May 3. This computer, based on the Intel 8080 microprocessor, contains a minifloppy disk drive, color TV monitor, and capability to provide color graphics in 16 colors. The club meets the first Thursday and third Monday of each month from 5 - 7 p.m. in Room 209 of the Gilruth Center. Anyone interested in computers for personal use is invited to attend.

National Secretaries Week is April 22 - 28

National Secretaries Week is April 22-28, with National Secretaries Day on Wednesday, April 25. NASA Clear Lake Chapter of the National Secretaries association will hold a buffet breakfast at the Holiday Inn, Nassau Bay, on April 25, 7:45 a.m., \$5 a person. Secretary of the Year, Estella Gillette of NASA Earth Resources, and all secretaries will be honored. All secretaries, members and non-members, are invited to attend this event. Guests are also welcome. Reservations should be made in advance. Send your check to Mrs. Alma Hurlbert, 405 Christina Lane, Friendswood, Texas 77546.

Hear the Impossible Made Possible

Toastmasters International, Spaceland

Club, will hold its Eastern Division Speech Contest on Saturday, April 21, at the Holiday Inn, 1300 NASA One. Advance registration is \$8, or it's \$9 at the door. There will be cocktails at 6:30 and a buffet dinner at 7:30, followed by the speech contest at 8:30. Angie Johnson will represent the Spaceland Club with her Area One winning speech, "The Impossible Made Possible" and Ann Sullivan, winner of the Area One Evaluation Contest, will do speech evaluations. For further information, contact Thelma Williams at x-2254.

Star Parties and Scientific Interest

The JSC Astronomy Society's monthly meeting is April 26, 7:30 p.m., in the Bertner Room at the Lunar Science Institute on NASA One. Anyone with an interest in the science of Astronomy is invited to attend. A star party is planned for the following night. Location is to be announced at the meeting. For more information, call Don Halter x-2213 or 488-0588.

AFGE Involved With Women's Week

In conjunction with Women's Week, AFGE is sponsoring a reception/banquet honoring Louise Smothers, National Coordinator for Women's Affairs, on May 4. There are a limited number of tickets. Call x-4277 for reservations.

Special Entertainment Available for Your Organization or Club

PLAYS FOR LIVING offers six one-act plays on topics such as quality education, aging, child abuse, single parenting, obsolete male-female stereotypes, and



alcoholism. After the problem is presented in drama, a discussion follows. And do the audiences respond! Sometimes they are in total agreement; other times vigorous disagreements liven the evening. Organizations in the Bay Area can have an interesting, exciting program for their meetings. Call three to four weeks prior to meeting date to book a play. Contact Adele Wallace at the Bay Area Social Service Center, 486-9682.

On Sale at the JSC Exchange Store

Dean Goss tickets - \$10 single
\$20 couple (Reg. \$14.50)
ABC Theatre tickets - \$2
General Cinema tickets - \$2.40 each
Six Flags Over Texas tickets
\$7.25 for one day (Reg. \$9.25)
\$9.25 for two days (Reg. \$13.95)
Astroworld tickets - \$7.25 (Reg. \$9.25)
Magic Kingdom Cards - Free

Disco Fever Cooled in Dunk Tank

If you have some people you'd like to dunk, the EAA Picnic Committee has lined up a few for you on the EAA's own two-seater. So far we have Glenda Lancon and Don Puddy, Mary Lee Meider and Bob Crippen, Pat and Fred Haise, Kandy Hosea and Rod Loe, Kay Ebeling and Bill Gravett, Gay Blanchette and Gene Kranz, Cindy Martin and Ted Mendenhall, Rachel Windham and Don Gregory, and there will be more. Discount tickets are on sale at the Building 11 Cafeteria through April 27. Make plans now for Saturday Afternoon Fever May 5, 11 a.m. to 5 p.m. at Camp Manison.

How About Some Disco Dance Lessons First?

The JSC Dance Club is sponsoring another disco dance class starting May 1, 7 - 8 p.m., Room 204, Gilruth Center. This session will include a review of steps already taught and some new steps to increase the dancer's skill. Or for the more sedate among you, JSC BALLROOM DANCE LESSONS are held each Wednesday 6:45 - 8:15 p.m. Contact Lytle Jiongo, x-3445, for further information.

They Don't Mind Stepping on Those Throttles

Power boat race fans in this area will be treated to still more excitement this coming season with the reappearance of inboard race boats such as the "Blown K" racing runabouts, 280 "Hydros," Super Stocks, SKs, and competition jets. These inboards are capable of speeds in excess of 100 mph, and the drivers don't mind standing on those throttles. The season's schedule, starting with an April 22 race at LaPorte, includes races in Palacios, TX, and Port Lavaca. Contact Jim Bailey, at 334-1623, for more information.

For Those Who Specialize in Aerospace Mechanisms

The 13th Aerospace Mechanisms Symposium will be held April 26-27 at Gilruth Center. Aleck C. Bond is host chair. This is the only meeting in the world specifically devoted to the problems of aerospace mechanisms. Twenty-four papers will be delivered. For further information contact Bill Sova at x-4966.

Tribute to Einstein Centennial Continues

The University of Houston Central Campus is holding public lectures this month, continuing its tribute to Albert Einstein's Centennial Year. Dr. Ilya Prigogine, Nobel Laureate in Chemistry in 1977, will speak April 26 at 4 p.m. in Room 117 of Science and Research Building One. His lecture, "From Determinism to Probabilities," will deal with the nature of time and the appearance of new physico-chemical and biological structures.



Saturday Afternoon Fever will feature the disco sounds of Renel Boudreaux, pictured above. Boudreaux, an off-site Lockheed employee, will play records from 2 - 5 p.m., complete with lights, amplifiers, and a dance contest. Photo by Carmelo Sustaita

Everyone who works on site should receive a copy of *Roundup* in the mail—including on site contractor employees. Branch secretaries, please review your section. If everyone is not receiving a copy, including contractor employees, fill out another JSC Form 2271 and send it to Distribution JM86. Any questions on this, call the *Roundup* editor at x5111.

Another NASA benefit

Insurance geared to employee needs

NEBA Group Travel Accident Life Insurance annual premium notices are in the mail to employees currently enrolled. This is for coverage for the year beginning May 1. There is *not* a grace period under this plan.

Eligible employees may join at any time.

Travel accidents exact a shocking—and rising—toll of victims each year. Car accidents are the leading cause of death from external causes. Almost 50% of all accidental deaths result from auto accidents. For young people, the rate is about 70%.

NEBA's insurance is designed to combat the financial burden that results from these tragedies.

Four plans are being offered: One of them is just right for you. Each plan offers \$25,000, \$50,000, or \$100,000 coverage

for the employee; and spouse coverage on an optional basis.

The cost is minimal — about two cents per day — for \$25,000 coverage, employee only on personal travel. The cost for employee (\$25,000) and spouse (\$10,000) for both personal and worldwide business travel is a little more than four cents a day.

Other plans cover pilots and crews on administrative flights and on proficiency flights.

Membership is available to permanent employees and detailees. Anyone interested in this coverage should contact the NEBA Office, Room 152, Building 1, x-5410.

Only two things are required to join: (1) complete a membership enrollment card, and (2) pay the annual premium.

What's cookin' in the JSC cafeteria

Week of April 23 - 27

MONDAY: Chicken & Rice Soup; Texas Hots & Beans; BBQ Ham Steak; Steak Parmesan; Beef & Macaroni (Special); Green Beans; Carrots; Au Gratin Potatoes. Standard Daily Items: Roast Beef; Baked Ham; Fried Fish; Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

TUESDAY: Tomato Soup; Potato Baked Chicken; BBQ Spare Ribs; Mexican Dinner (Special); Squash; Ranch Beans; Spanish Rice; Broccoli.

WEDNESDAY: Clam Chowder; Baked Turbot; Liver & Onions; BBQ Ham Steak; Baked Meatloaf w/creole sauce (Special); Beets; Brussels Sprouts; Green Beans; Whipped Potatoes.

THURSDAY: Beef & Barley Soup; Chicken & Dumplings; Corned Beef w/cabbage; Smothered Steak w/cornbread dressing (Special); Spinach; Cabbage; Cauliflower au gratin; Parsley Potato.

FRIDAY: Seafood Gumbo; Pork Chops w/Yam Rosette; Creole Baked Cod; Tuna & Salmon Croquette (Special); Brussels Sprouts; Green Beans; Buttered Corn; Whipped Potatoes.

Week of April 30 - May 4

MONDAY: Cream of Celery Soup; Braised Beef Ribs; Chicken a la King; Enchiladas w/chili; Italian Cutlet (Special); Brussels Sprouts; Navy Beans. Standard Daily Items: Roast Beef; Baked Ham; Fried Chicken; Fried Fish; Chopped Sirloin. Selection of Salads, Sandwiches & Pies.

TUESDAY: Beef & Barley Soup; Turkey & Dressing; Country Style Steak; Beef Ravioli; Stuffed Cabbage (Special); Corn Coblette; Okra & Tomatoes; French Beans.

WEDNESDAY: Clam Chowder; Catfish w/hush puppies; Roast Pork w/dressing; 8 oz T-Bone Steak; Chinese Pepper Steak (Special); Broccoli; Macaroni w/cheese; Stewed Tomatoes.

THURSDAY: Cream of Tomato Soup; Beef Tacos; BBQ Ham Slice; Hungarian Goulash; Chicken Fried Steak (Special); Spinach; Pinto Beans; Beets.

FRIDAY: Seafood Gumbo; Liver w/onions; Deviled Crabs; Roast Beef w/dressing; Seafood Platter; Tuna & Noodle Casserole (Special); Whipped Potatoes; Peas; Cauliflower.

Sports

Mets Capture JSC Preseason Tournament Championship

The Miller & Freeman Ford Mets displayed a powerful offense and steady defense on the way to an undefeated record in winning first place honors in the 1979 Johnson Space Center Preseason Tournament held March 30 through April 1. In sweeping five straight games, the Mets averaged over 16 runs a game while never given up more than three. After a first round bye, the top-seeded Mets bombed the Animals 29-2, behind the power hitting of **Phil Shannahan**, who came out of retirement to blast two home runs. After a close 7-2 second game victory over Who's On First, the Met bats rattled off consecutive 18-run totals to defeat the Marvels and SOPAC. In the

championship game, the Jalapeno Tree Peppers came from three runs down early to tie the score before homeruns by **Jim Smith** (two), **Jack Boykin**, and **John Kaderka** lifted the Mets to an 11-3 win. The offensive standouts for the Mets were **Mike Slack** (.824), **Jack Boykin** (.650, three homeruns), **Mickey Donahoo** (.625), and **Jack Kaderka** (.611, two homeruns). Fine defensive play was provided by rookie third baseman **Jim Smith**, infielders **Nat Hardee**, and **Wayne Whittington**, outfielder **Jim Pawlowski**, and catcher/coach **Rich Holtje**.

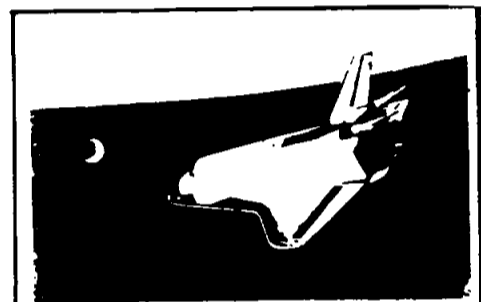
JSCTC — FRC Split Tournament Honors

The Mixed Doubles Tournament held on April 6 & 7 at the Friendswood Racquet Club (FRC) came out even between

the FRC members and the members of the JSC Tennis Club. Although Friendswood won Class A and B in the Winners Round, they only took Class B in the Consolation Round. The results were: *Winners Round, Class A:* Lowe-Sanchez over Tiller-Carns; *Class B:* Brooks-Peckenpaugh def. the Smiths; *Class C:* The Felans' def. the Manners'. In the *Consolation Round, Class A:* Kingcaid-Humphreys def. the Utleys; *Class B:* the Yevevino's def. White-Kain; *Class C:* Aubert-Lyon def. Miller-Dietrich.

The next JSCTC Tournament is a Singles Tournament on May 11-12-13, sponsored jointly with CLTA (Clear Lake Tennis Association) to be held at FRC and Windmere. Entry forms will be coming out soon to all JSCTC members, so if you have not joined the club yet, do so now. Call Linda Horwitz, Membership Chair (X3035).

Roundup deadline is the 1st Wednesday after publication.



The Roundup is an official publication of the National Aeronautics and Space Administration Lyndon B. Johnson Space Center, Houston, Texas, and is published every other Friday by the Public Affairs Office for JSC employees.

Writer/Editor: Kay Ebeling
Photographer: A. "Pat" Patnesky

Roundup Swap Shop

Miscellaneous

Used rear step bumper including mounting hardware, slightly damaged, fits 73-79 Chev Fleetside PU. 538-1025.

Solid stainless cutlery set, 19 pieces, just \$10; \$59.95 suggested retail. Corner of Avenue B and NASA One, by the water, April 26 & 27, 6 am - 6 pm. A.F.G.E.

Hansson ladies ski boots, size 5 or 5-1/2, like new, white, \$60. Liz 484-1770 after 5.

Aluminum assorted window screens \$2.50 each. Holley x2717 or x3616.

Patio doors, 72 inches wide with screens, no track, \$75. Holley x2171 or x3616.

Black and Decker Workmate, assembled but never used. New \$45 sell \$40. T. Brown. x5491 or 482-4744 after 6.

Pure local honey in pints \$1.65, quarts \$2.75, gallons \$10. Ward. x4976.

Console stereo radio \$50, recliner \$75, rocker easy chair \$35, new Frigidare 17 refrigerator \$375. x4183 or 946-5849 after 5.

Kenmore sewing machine, exc cond. model 372, cabinet and accessories all for \$75. Delay. x2353 or 946-6296.

Used victor welding regulators, single stage, large size, \$50/pair. 864-8002.

Firewood, oak, \$50 a pickup load. You haul. 862-9813.

Depth finder \$24. T. Ward. x2651.

Black and Decker Workmate, standard single height, new. \$35. 482-1635.

2MTR transceiver, drake TR22C, exc cond, \$160. Kessler 488-0853.

Lawn fertilizer spreader, Sears adjustable rate. 488-4409 after 5.

Pet shipping cage, approximately 22 x 32 x 24 inches. Wood and wire screen. 488-4409 after 5.

Salt water fishing gear 4/0 Penn reel with 250 yds nylon line, 8' boat rod (never used) misc. tackle. 488-4409 after 5.

Load equalizer class III trailer hitch with torsion bars and bolt-to-frame brackets, EAZ-LIFT. 488-4409 after 5.

Pets

Gelding quarter horse, no papers, blazed fare, four white stockings, nine years old, includes bridle and saddle. \$425. Doherty 488-0182.

Yellow AKC Labradors, champion bloodlines, shots and wormed, ready now and can be retrieving by duck season. Males \$150, females \$125. 337-5018.

Lost & Found

Lost: Gold bracelet w/diamonds, lost in Bldg. 1 vicinity, reward. x3831.

Lost: Ladies Hamilton white gold diamond watch. Vicinity of Bldg. 416 - 420 NASA or Nassau Bay Hotel. \$100 reward. x3176 or 488-3126.

Wanted

Student's practice piano. James Ginns x6287 or 694-0759 after 5:30.

Housing or bdrm accommodations for JSC Summer Interns. Needed for mid-May through end of August. Jan Garner x3734.

French provincial chaise lounge. 334-2461.

Swap: 9,000 BTU/110 volt Sears window a/c for your 4- or 6-inch Newtonian telescope. 332-7359 after 5.

Needed: Flywheel and bell housing for 74 Ford 3-2/C4. Also van bench seat. Pete. x3125 or 479-6181 eves.

Boats & Planes

71 Cessna 150L Commuter, 1395 SMOH, 300 Navcom plus spare, ELT, ADF, xponder, Nov. annual, fresh 100 hr. \$6800. 554-2385 eves.

18' Hydrodyne ski boat, 220 hp in-board/outboard, good cond, large wheel trailer, \$3000. 864-8002.

Stereos & Cameras

AM radio from 1975 Ford Granada, good cond, \$30. Parker. x4241.

Mamiya 330 TLR camera with 80mm and 180mm lenses; will trade for 35mm Nikon with lenses or large format SLR. Krpec. 661-4789.

AM/FM radio with speaker, antenna and all wiring interconnections. Ready to install. Fits '76 Chrysler Prod. 488-4409 after 5.

Cars & Trucks

73 Chevelle SW, minor mechanical work needed, exc shape, \$1500. Brenton x2731 or 488-4372.

71 Chev Malibu, 350-2 (reg gas), 2-dr, auto, air, PS, runs well, orig owner, \$800. 482-3756.

Ads should be under 20 words and include home phone number. Typed or printed ad copy, a separate sheet for each ad, must be in the Roundup office AP/3 by Wednesday the week prior to publication. Swap Shop advertising is open to JSC federal and on-site contractor employees for non-commercial personal ads. Goods or services must be offered as advertised, without regard to race, religion, sex or national origin.

Personals

Happy Birthday, Kay Walls, April 22, 1979.

Cycles

Girls 20" green bike, good cond, extra tier and tube, \$20; kiddy step stool, \$4; children's desk masonite top and seat, \$6. 471-3303.

26" ten-speed bicycle, good cond. \$40. 864-8002.

Property & Rentals

For sale: Duplex lot, Alameda Mall area, all utilities, \$5500 firm. Cooper 333-5883.

For rent: Baywind condo, 2 bedrooms, fireplace, icebox, dishwasher, attractive interior, patio, pool and club facilities, 1000 sq.ft., no pets. 334-2461.

Mobile home spaces in Baycliff. Horton. 334-2360.

Three-bedroom home in Seabrook, available in June, \$295/mo., Horton, ext. 3734.

Beach cottage for rent, Bolivar on the Gulf, families only, Horton, ext. 3734.

Texas veteran land and other tracts, call after 5. 482-7697.

Lake Houston waterfront lot, Northshore subdivision, will finance \$10,000. 864-8002.

Rent waterfront vacation retreat by marina at Cape Royale on Lake Livingston, new 3 bdrm, tennis, pool, golf, boat launch, by week. 488-3746.

For rent: Camino South, 3-bdrm, 1-1/2 baths, patio, fenced back yard, walk to Whitcomb school, \$425/mo., available May 5. 334-3393.

Vacation Lake Livingston Cape Royale a beautiful resort community, charming 3-2-1, furn., home nestled among trees by the water, rent by week/month/year. 488-4487.

For sale: Lake Livingston lot, Holiday Shores, lake view, trees, water, elec., tennis, boat ramp, pool and security, \$2440, terms or trade. 488-5445.

For rent: luxury two bedroom beachfront apartment on 9th floor hi-rise on Galveston seawall, fully furnished, cable TV, etc. 488-4276.

Lease: Dickinson (Bayou Crest) 3-2 1/2-2, Old English, large rooms, microwave, electric garage opener, 2,100 sq. ft., \$575/mo. plus deposit. 337-2415 after 3.

Rent/lease, Heritage Park, 3-2-2, separate dining, draped, patio, fenced, immaculate throughout, \$450/mo. 474-4991 after 5.

Carpools

Third carpool member Shoreacres and vicinity, 8-4:30 shift. Ed. 471-2542, Judy 471-1701.

Rider to join carpool leaving Northwoor Manor or vicinity at 7 am for the 8-4:45 shift. Cynthia x4670 or 449-9259.

Need a ride to and from work. 7:30-4 shift, Edgebrook area. Nickelson x4019 or 944-4113 (will pay gas money).



Arctic sensing

Continued from Page 1

while in Alaska was Elmendorf AFB at Anchorage. Flights went over different locations around the Alaskan Coast, covering various types of ice and ice formations. Locations overflown were the Mackenzie Delta region of the Beaufort Sea, the GEOS satellite track over Norton Sound, and the Bering Sea ice edge and Floeberg region. In each of the areas flown extensive surface truth measurements were made, and samples were collected by personnel on the ice.

Other bases or airports used during the mission were Langley AFB, Virginia; K. I. Sawyer AFB, Michigan; Minneapolis Airport; Eielson AFB, Fairbanks; King Salmon, Alaska; Inuvik, Northwest Territory Airport, Canada; Galena, Alaska; Edmonton, Alberta, Canada; McChord AFB, Tacoma, Washington; and Peterson AFB in Colorado Springs, Colorado.

Earth Resources combines with Space and Life Sciences

JSC's Earth Resources Program Office has been moved into the Space and Life Sciences Directorate effective April 2.

Global monitoring of wheat and other crops, forests, and rangelands by remote sensing will be among Earth Resources' activities. JSC has lead management over the new six-year program using Landsat and other data as a follow-on to the LACIE (Large Area Crop Inventory Experiment).

NASA, NOAA, the USDA, the Department of the Interior, and the Agency for International Development are cooperating in the program.

In management changes within the Directorate, William E. Rice is deputy director for Earth Resources, Space and Life Sciences; Robert MacDonald is chief scientist for Earth Resources; and Bryan Erb is new chief of the Earth Observations Division.

First Shuttle mission

control system keeping the cabin temperature at about 72 degrees. "I sure hope it works," Young said with emphasis.

About 70% of the crew's training time is being spent on the ascent/entry mission phases. "Deorbit preparation is phenomenal," Young said, adding that that portion of the mission takes over six hours.

Crippen has to make sure the payload doors open and close properly, a function carried out by computer. He has spent many hours in the Water Immersion Facility on site doing developmental tests for a contingency EVA (Extra Vehicular Activity) to close the payload doors if the computer does not work.

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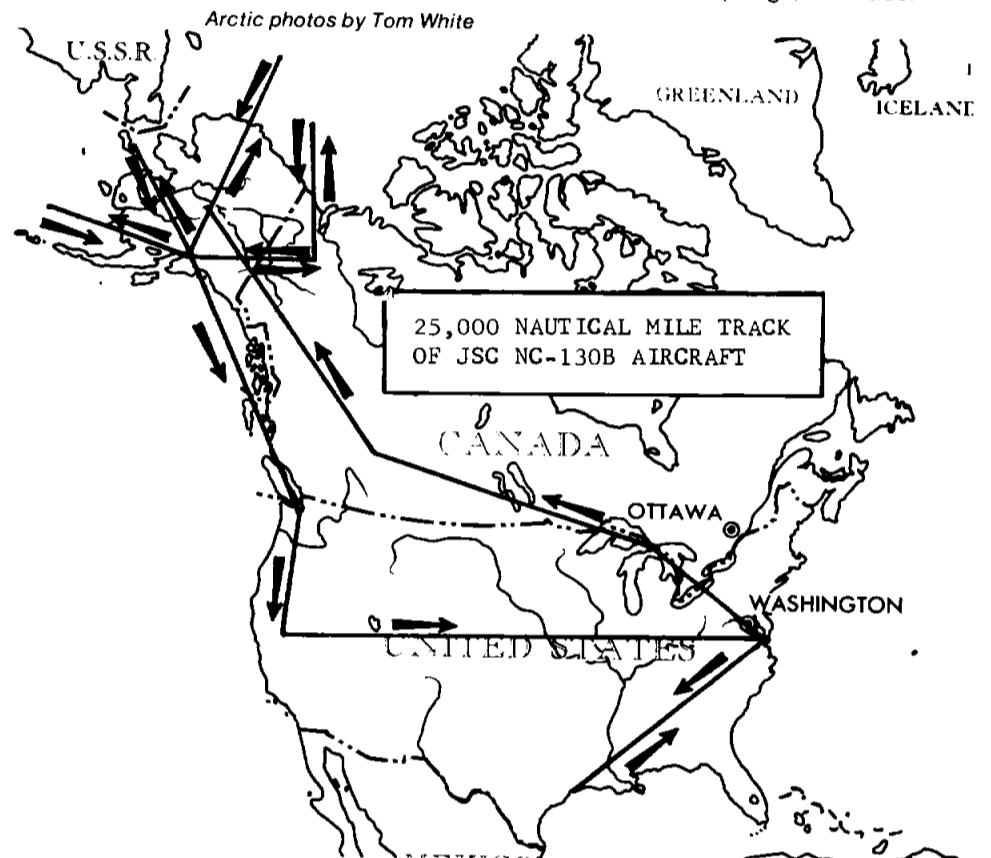
When the two return, Space Program workers will have gained a great deal of knowledge about how orbiters will function and how the Space Transportation System will develop. Young summed up the real purpose of STS-1:

"It will be the first step to making routine access to Space a reality," he said.

Enterprise to Cape

we'd be able to fly the Shuttle Carrier Aircraft in this configuration for awhile," he said.

KSC employees will stack the Enterprise on the Orbiter Launching Plat-



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form to run pre-launch tests, "cutting down on the amount of time needed to do that later" with Columbia, a KSC spokesman said.

Think Tank Results

We had employees all over site going coconuts over the last Think Tank Puzzle. Twenty-six submittals were received on time, but it's rumored that hundreds of workers are still grinding their pencils down to stubs trying to work out the answer.

All possible solutions are described by: $15,625n + 3,121$ where $n = 0, 1, 2, 3, \text{ ad infinitum}$. Our Puzzle Editor says four persons found the answer analytically, judging by the way they described their methods. First place goes to **Ved P. Goyal**, who works for Northrop at Ellington, and ingeniously found an analytical solution to every part of the problem.

Let X be the number of coconuts collected. Then:

$$\frac{4}{5} \left(\frac{4}{5} \left(\frac{4}{5} \left(\frac{4(x-1)}{5} - 1 \right) - 1 \right) - 1 \right) - 1$$

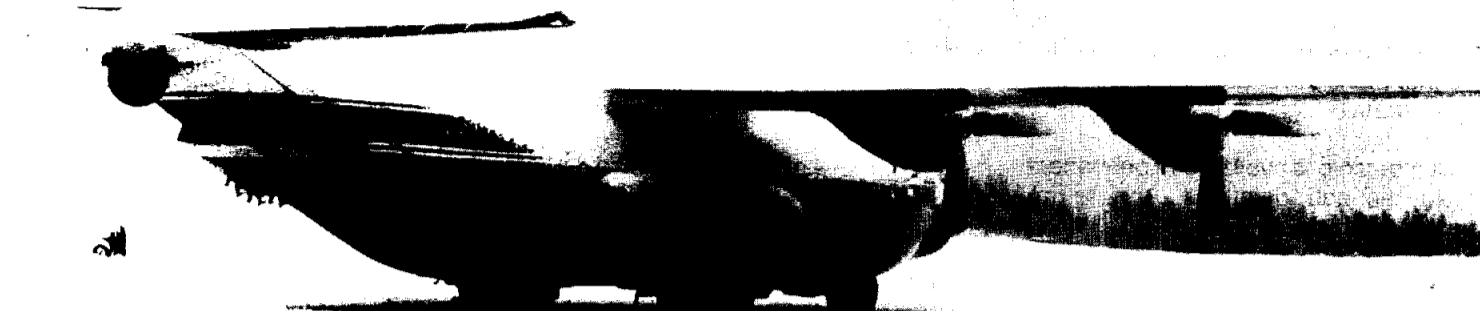
Runners up are **Frank L. Baiamonte**, **T. F. Gibson**, and **T. Moore**. Honorable mention goes to **Roy C. Stokes** and **Tandy N. Bruce**.

Several others got the correct answer by using what appeared to be trial and error, or calculations from various other formulae, says the Puzzle Editor. Still more got the smallest possible answer, 3,121, but did not carry the problem to completion.

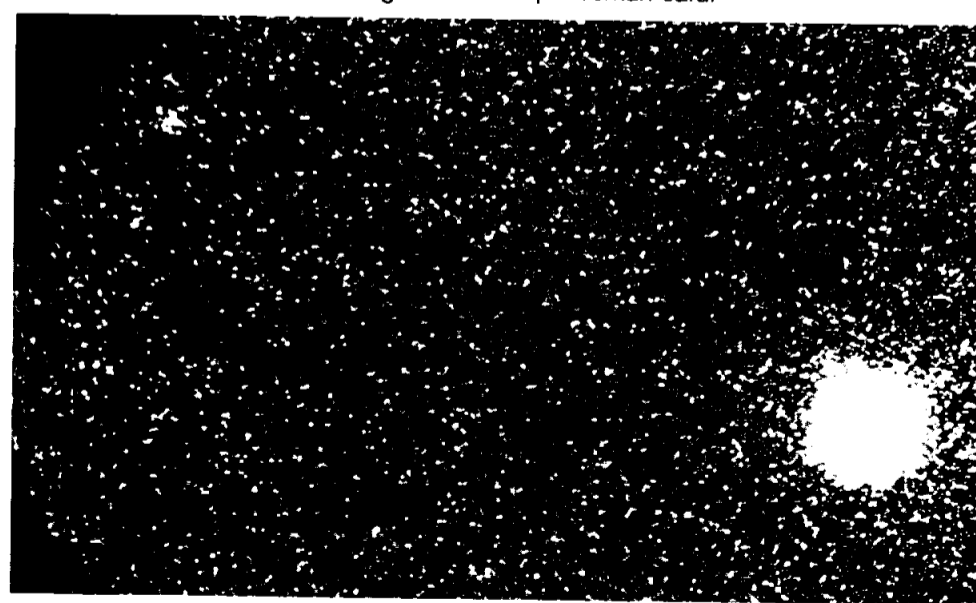
And this week there is a Booby Prize: To the fellow who turned in the answer: "The monkey got five." We won't mention his name, but we recommend he take a few weeks leave and get his mind off Skylab for awhile.

Watch next issue for the next puzzle: "A Weighty Problem."

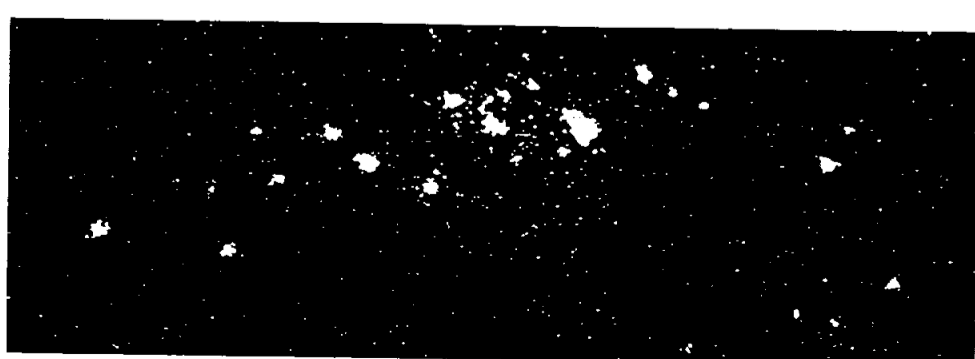
THE EINSTEIN TELESCOPE on NASA's High Energy Astronomy Observatory (HEAO 2) is finding the most distant and most powerful objects ever observed, solving mysteries about the forming of the Universe, and asking new questions. First analyses show evidence that the Universe may expand forever. Theories that elements are created by supervovae have been confirmed, and energy processes are being studied. HEAO 2 was launched Nov. 13.



Young stars emitting X-Rays at early stage



Newly discovered quasar—light from 10 billion years ago



20 of 60 X-Ray sources found in Andromeda galaxy