

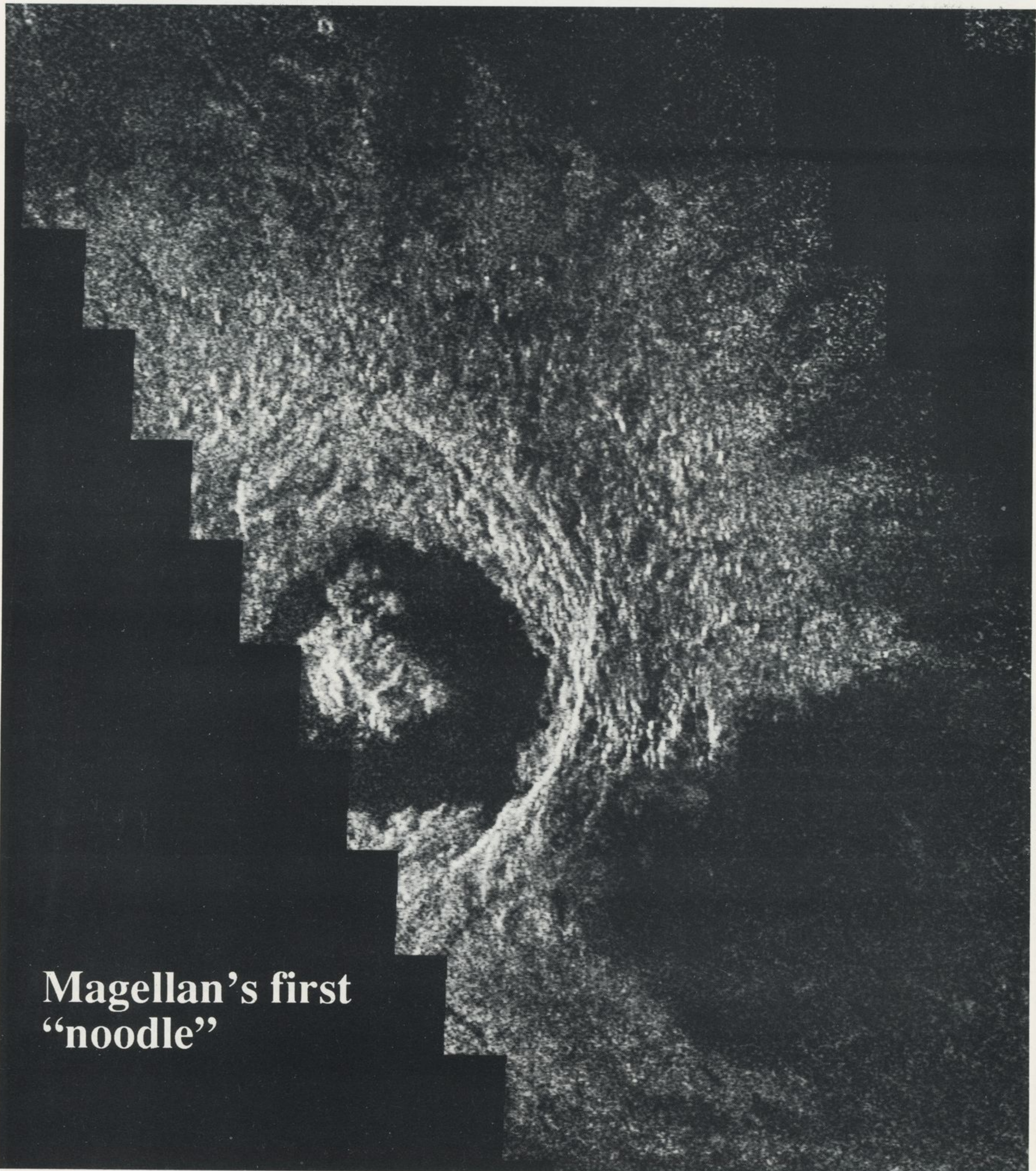
MARTIN MARIETTA

news

ASTRONAUTICS GROUP

August 31, 1990

Number 17



Magellan's first
"noodle"

News now printed on recycled paper



recycled paper

Starting with today's issue, the *Martin Marietta News* will be printed on recycled paper.

The Astronautics Group is looking for ways to help the environment, and printing the bi-weekly run of 19,500 copies of the *News* is one way to do that.

"The Reproduction department wants to do its part in the Astronautics Group's environmental efforts," Pat O'Connell, chief of Reproduction Services, said. "We constantly are looking to use recycled paper for as many jobs as possible, and the *News* certainly offers a good situation for using the recycled paper." ■

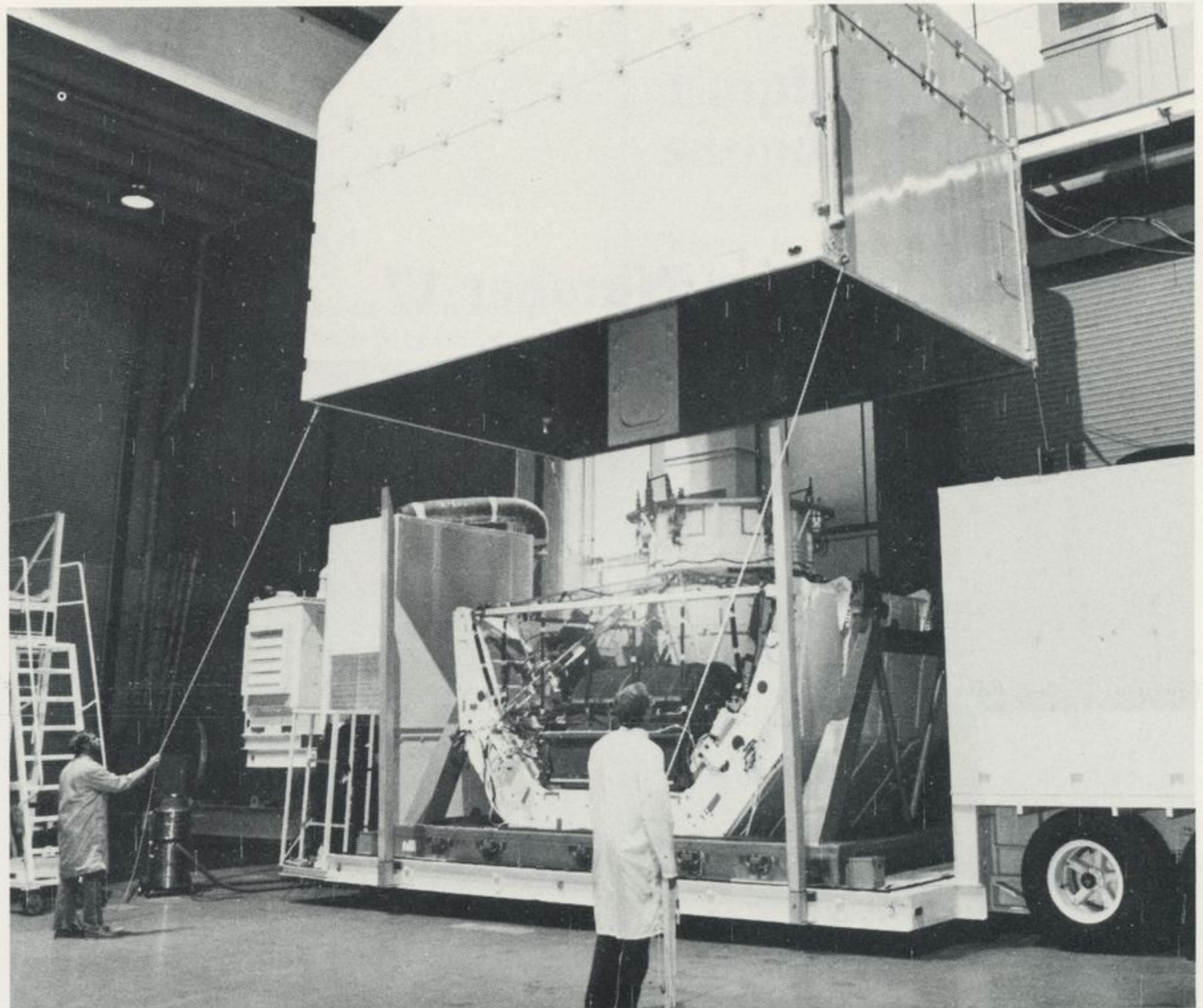
Walk at zoo planned for Diabetes Foundation

The 1990 Juvenile Diabetes Foundation Walk will be conducted at 9 a.m. Sept. 15 at the Denver Zoo.

The walk raises funds for diabetes research.

To participate on the Martin Marietta walking team, or to donate a pledge, please call Ernest Roybal at Ext. 7-9284.

Free Martin Marietta T-shirts will be provided to the first 50 people who register to walk.



Tethered Satellite heads to KSC

The Tethered Satellite System last week was shipped from the Main Plant, where it was built and tested, to the Kennedy Space Center in Florida. After the five-day trip, via a caravan of land vehicles, the system is being unpacked and inspected through Sept. 10. Off-line testing and checkout of the system will be conducted through next spring. Next summer, the deployer will be mated with an Italian-built satellite, and science experiments will be mounted in preparation for the initial mission at the end of 1991.



Bull gives Corporation 50

Harry C. Bull, senior manufacturing engineer, left, is congratulated for 50 years of dedicated service by Astronautics Group President Peter B. Teets. On Aug. 12, 1940, Bull started working for the Glenn L. Martin Company at the Middle River Facility in Baltimore. Since then, he has worked on a number of projects in Baltimore, New Orleans, and Denver. Bull ends his career today.

SIP

Unit values for the Savings and Investment Plan (SIP) for employees represented by United Aerospace Workers (UAW) and United Plant Guard Workers of America (UPGWA) in July 1990 (June 1990 values in parentheses) are:

Fund A	1.3147770554
Indexed Equity	(1.3206151276)
Fund B	1.2355687156
Fixed Income	(1.2275829789)
Fund C	0.7839476318
Company Stock	(0.8838241774)

PSP

Unit values for the Performance Sharing Plan (PSP) for salaried employees in July 1990 (June values in parentheses) are:

Fund A	6.4345633764
Indexed Equity	(6.4560286529)
Fund B	3.6190241442
Fixed Income	(3.5915017368)
Fund C	4.1568990723
Company Stock	(4.6867659943)

Augustine sends letter to potential call-up employees

(Editor's note: Chairman and Chief Executive Officer Norman R. Augustine this week sent the following letter to about 300 Astronautics Group employees who have the greatest chance of being called up to serve the country. These employees in the Reserves or National Guard all have participated in summer duty during the last year and a half. This letter also is applicable to any employee, hourly or salaried, who may be called to active duty.)

August 30, 1990

The current crisis in the Middle East looms as a significant threat to the well-being of our Nation and our allies around the globe. Actions being taken by President Bush are intended to resolve this crisis as rapidly as possible with minimal physical risk to the parties involved.

We are aware that you have served in the Reserves or National Guard and that there is a possibility that you will be called upon to

serve the Country during this time of crisis. Martin Marietta is proud of its employees' involvement in supplementing the Nation's active military strength when such conditions arise, and we want you to understand that we are aware of the sacrifices that you have made and may have to make during this period of time.

To help alleviate your financial and family concerns, Martin Marietta will pay the difference between your current base pay and the pay you receive from the government for a period of up to 90 days. Extensions to this will be considered as circumstances warrant. In addition, your spouse and dependents will be able to continue coverage under Martin Marietta's group Medical Benefit Plans for up to 30 days should you be called to service. This extension will permit an orderly transition to services provided to military dependents by the government. Consideration will be given for extension of medical benefits in

cases where conditions support the need. Since plans for military dependents do not provide dental and vision services, your spouse and dependents will continue to be covered for these services by the Martin Marietta plans. Monthly premium contributions for dependent coverage during this period will be waived. A Human Resources representative, specifically assigned to assist you, will fill you in on the details of these important issues and other special items that might be of concern to you at this time.

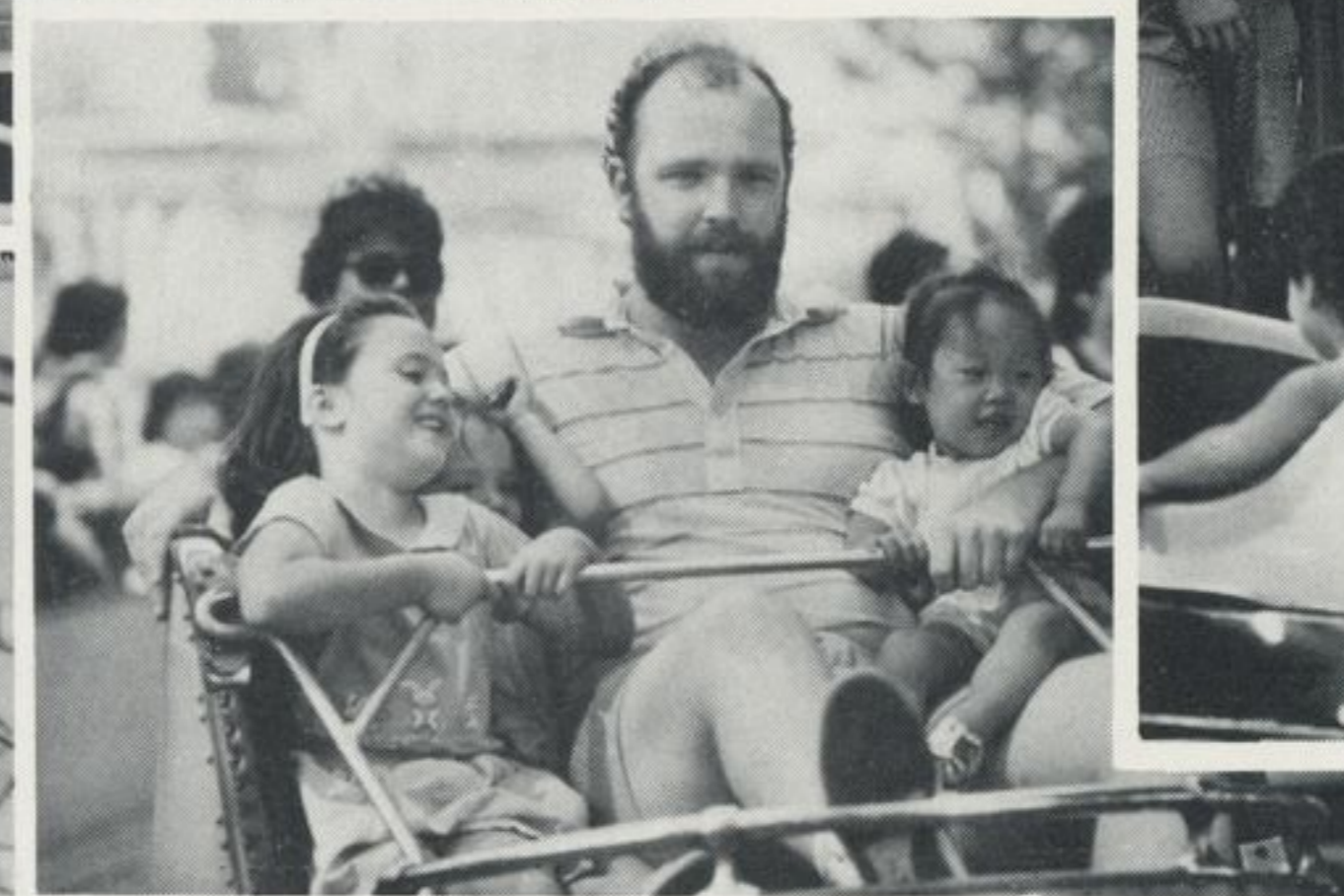
We appreciate the contribution that you are making to our Country. We wish you safety and look forward to your speedy return as a member of the Martin Marietta team.

All best wishes.

Sincerely,

Norman R. Augustine
Chairman and Chief
Executive Officer

21,000 enjoy



fun at Lakeside

BikeToberfest set for September

Employees interested in participating in the last cycling tour of the season to benefit the Multiple Sclerosis Society are encouraged to sign up for "BikeToberfest."

This event, scheduled Sept. 30 in Boulder, is for recreational and serious riders and offers routes ranging from 25 to 100 kilometers.

After the ride, participants will gather for entertainment, food, and refreshments, and all riders will receive a T-shirt.

Registration is \$10, and riders are encouraged to collect pledges.

A Martin Marietta team is being formed for the event, and employees may sign up as riders or volunteers. Jamie Bachant at 790-3238 is coordinating volunteers, and John Lilly, 790-3226, and Dave Minson, Ext. 1-6438, are coordinating riders. Contact any one of these individuals for registration forms or more information.



Children's program gets support

Jerry B. Pitts, from the Equal Employment Opportunity and Affirmative Action department, center, joins some Denver youth from the Child Opportunity Program, Inc., to learn more about their involvement in the Head Start and Child Care programs conducted by the child opportunity organization. The company recently contributed \$2,000 to the group to assist in acquiring and renovating a new facility in the Curtis Park neighborhood for these programs.

1990 Mid-Year Review Questionnaire

Earlier this summer, the Astronautics Group completed the first-ever mid-year video update for employees. Called the "1990 Mid-Year Review," the tape featured Astronautics Group President Peter B. Teets and employees discussing current business items. Teets asked managers to show the video to their employees and then to discuss it with them.

We are interested in hearing what the employees thought of this communication tool. If you work in the Denver area, you do not need to put this questionnaire in an Interoffice Mail envelope. Just drop it in the nearest company mail pickup location. Survey results will be tallied for all questionnaires returned by Sept. 21. Please send the questionnaire to:

**Public Relations
Martin Marietta Astronautics Group
Mail Stop DC 1020**

1. Have you seen the "1990 Mid-Year Review?"
 - a. Yes
 - b. No
 2. Please circle the category that includes your labor grade:
 - a. Hourly
 - b. Non-Exempt Salaried
 - c. Exempt Salaried
 - d. Labor Grade 50 or Above
 - e. Nonemployee
 3. What company or central organization do you work for? (If you answered NO to number one, please skip to number seven.)

 4. How would you rate this program overall?
 - a. Excellent
 - b. Good
 - c. Average
 - d. Poor
 - e. Unsatisfactory
 5. Did the video provide new information about current Astronautics Group issues?
 - a. Very Informative
 - b. Somewhat Informative
 - c. No Opinion
 - d. Not Informative
 6. Was the subject material presented in an interesting way?
 - a. Very Interesting
 - b. Somewhat Interesting
 - c. No Opinion
 - d. Not Very Interesting
 - e. Dull
 7. If you have thoughts about the video (e.g., length, topics, likes, dislikes) or did not see the video, feel free to write your comments here:
-
-

Magellan sends back first pictures; signal lost twice

The Magellan spacecraft lived up to expectations Aug. 16 when it beamed back images of Venus that are 10 times better than any images ever taken of the planet's surface.

The images, taken during the spacecraft's first radar mapping test, were hardly received, however, before controllers lost contact with Magellan that same day. The signal, re-acquired about 14 hours later, was lost again on Aug. 21 for 17 hours.

Communication loss occurs when the spacecraft's antenna is not pointing toward Earth.

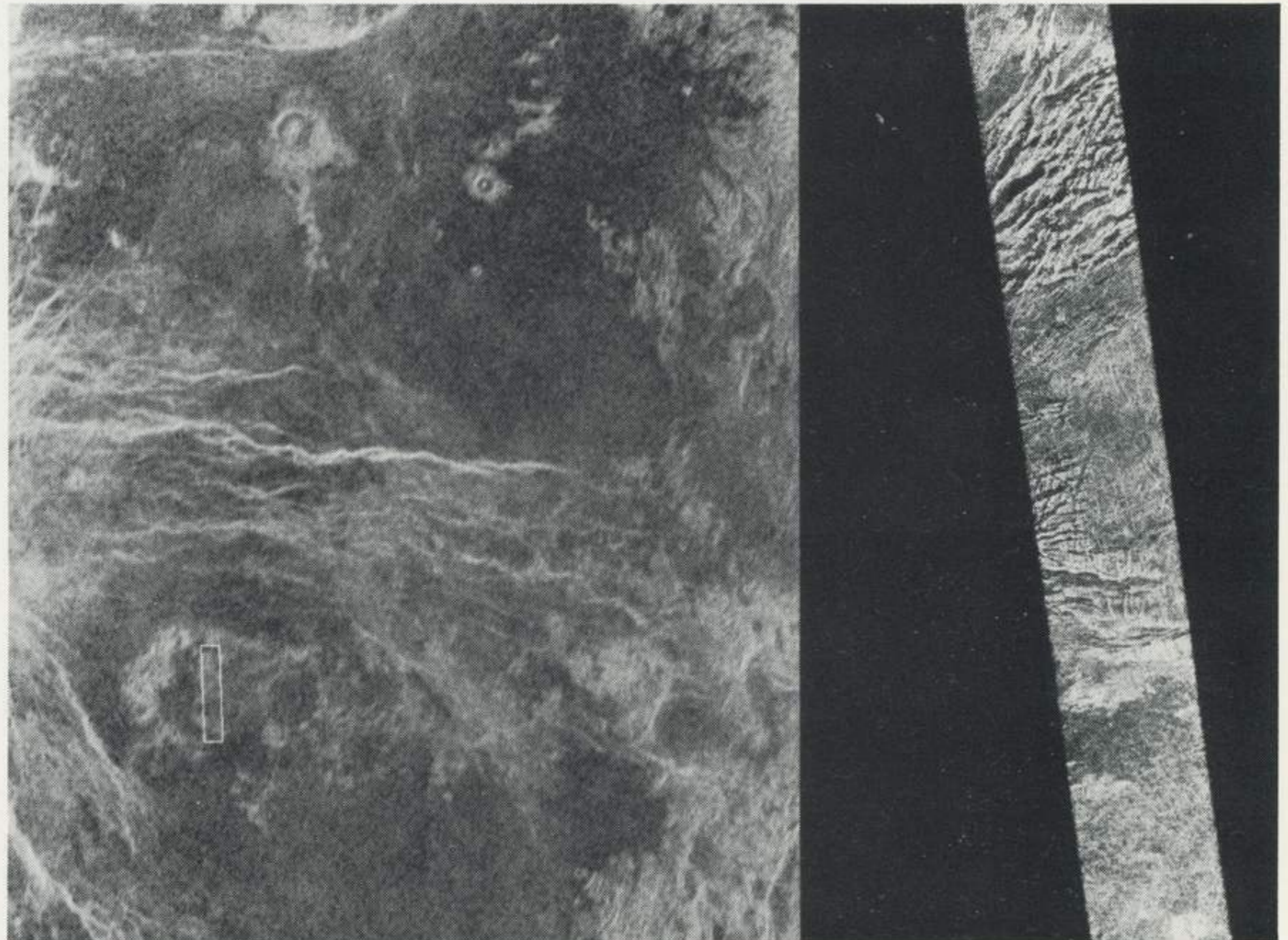
Although controllers were out of touch with the spacecraft during those periods, the spacecraft followed preprogrammed commands and entered a "safing" mode. In safing, the solar panels are pointed toward the sun to maintain power and the spacecraft begins searching for Earth with its medium-gain, or wide-beam, antenna. During this search, controllers acquired a signal and sent commands to the spacecraft to stop its search and re-establish continuous two-way communication.

Spacecraft engineers at the Jet Propulsion Laboratory (JPL) in Pasadena, Calif., and here in Denver have not determined the cause of the signal losses, although a detailed timeline of events has been established.

"What we do know is that one of the computers ran away," said Anthony J. Spear, JPL Magellan project manager.

Currently, controllers are maintaining two-way communication with Magellan, which is healthy and in stable operating condition orbiting Venus. Ten of the 72 Martin Marietta spacecraft team members moved to JPL this week to join an investigation group, led by Martin Marietta Magellan program manager Frank McKinney, to look into the cause of the problem.

Spear said the team's number one priority is to maintain the spacecraft's health, then give the spacecraft team—which had been working around the clock—some rest. Afterwards, Spear said his goal was to prepare contingency commands so that communications could be



Magellan's eyes 10 times better

Magellan's image of Venus' Beta Regio (right) is 10 times better than the best ground-based radar image (left) taken by the Arecibo Observatory in Puerto Rico. The Magellan image, with a resolution of 400 feet, corresponds to the area in the small white box on the Arecibo image, which has a resolution of 0.6 to 1.8 miles.

restored quickly if lost again.

The team has already developed a recovery plan to resume in-orbit checkout and mapping. Mapping operations are scheduled to begin in mid-September.

Despite recent difficulties, planetary scientists were thrilled with the quality of high resolution images taken by the spacecraft. Magellan sent back one and one-half "noodles"—12-mile-wide by 10,000-mile-long segments—of image data Aug. 16.

The images of a small region of major volcanic upland called Beta Regio showed

ridges, valleys, faults, lava flows, and a deformed type of surface called "tessera," the Latin word for tiles. The image resolution is about 400 feet, compared to a previous resolution of this area of 0.6 to 1.8 miles from the ground-based radar at the Arecibo Observatory in Puerto Rico.

"We have proven that the radar is working perfectly," said McKinney. "During the radar tests, the spacecraft was pointed toward Venus at exactly the right angle so that the images are terrific."

16 de Septiembre celebration planned

Sept. 16 is an important day of celebration for many Mexican Americans. On Sept. 16, 1810, in Dolores, Mexico, the tolling of the church bells and famous "El Grito de Dolores" (cry for freedom) signified the beginning of Mexico's struggle for independence from Spanish rule.

The Astronautics Group will celebrate 16 de Septiembre during the week of Sept. 10 through 14 to help employees better understand and appreciate the cultural diversity of the workforce.

Artwork by Hispanics will be on exhibit all week in the lobbies of the Littleton Systems Center and the Engineering Building, in the cafeteria at the Space Support Building, and on the A and R levels of the Deer Creek Facility.

A Mexican trio will perform during lunch Sept. 10 at the LSC cafeteria; Sept. 12 in the SSB cafeteria; and Sept. 13 in the cafeteria at the Engineering Building. Flamenco dancers will perform during lunch Sept. 11 on the Deer

Creek patio, and Mexican folklorico dancers will be on the same patio Sept. 14.

Volunteers from a new employee philanthropic organization called Amistad (Spanish for friendship and commerce) are helping to organize the events. Employees interested in joining Amistad should call Carol Romero at Ext. 7-6606.

A limited number of posters celebrating Hispanic "Mentes de Ciencia" (minds of science) will be available to interested employees during the festivities. The poster, created by the company, also will be distributed to local schools.

In addition, the Astronautics Group will participate during that week in the Mi Casa Women's Resource Center's fiesta event, the Hispanic Chamber of Commerce annual conference, and the Mexican Independence/Fiesta Days festival in downtown Denver sponsored by the Colorado Hispanic Historical Society.

On the cover

Magellan sent its first "noodles"—12-mile-wide by 10,000-mile-long strips—of image data home after its first radar mapping test on August 16. The image on the cover shows the crater Golubkina. Magellan data revealed that Golubkina, which is about 20 miles across, has characteristics typical of craters formed by a meteorite impact—terraced inner walls, a central peak and surrounding radar-bright material that has been thrown out of the crater. The darkness of the crater floor indicates a smooth surface, perhaps formed by the ponding of lava flows. These features suggest the crater is relatively young.

Wellness Fair set for next month

"It's Your Health, It's Your Life, It's Your Move!"

This slogan for the Sixth Annual Wellness Fair encourages employees to take advantage of a variety of health screenings and seminars at the work site. Health checks will include cholesterol level, blood pressure, body fat percentage, lung function, skin cancer, diabetes, hearing, vision, and flexibility. Employees can also experience therapeutic massage as a stress management technique.

A health walk clinic open to employees and their families will take place Tuesday evening, Sept. 18, at the Waterton recreation area picnic pavilion.

Lunchtime seminars will address chronic fatigue syndrome, dual career families, coping



with change, myth and truths about allergies, and teen intervention. A variety of free, health-related literature will also be available.

The Wellness Fair will be at Waterton, Space Support Building, Sept. 11 and 12; Deer Creek Facility, Sept. 13 and 14; Littleton Systems Center, Sept. 17 and 18; and Waterton, Engineering Building, Sept. 19 and 20.

Employees may pick up a schedule from the information racks for complete details on screenings and seminars. ■

Employees join to support troops

Astronautics Group employees are joining to gather care packages for United States troops in the Middle East.

Donations of cookies, crackers, hard candy, gum, sun screen, and nonperishable munchies are being collected by Jeane Roberts at Ext. 7-4791. She has requested that donations be brought to the Central Back-up Library in the Administration Building, Room 102C.

Volunteers are also needed to help collect, package, and deliver the items.

Employee services/recreation

Waterton Amateur Radio Society—All hams and those interested in learning more about amateur radio are invited to attend a meeting at 5 p.m. Tuesday, Sept. 4, in the hamshack at the recreation area. For more information, call Tony Kehayas at Ext. 7-2013.
Motorcycle Club—The Aerorider Motorcycle Club will meet at 5 p.m. Thursday, Sept. 6, in the recreation clubhouse. Contact Steve Taylor, Ext. 7-7731, or Paul Betthausen, Ext. 1-5574, for information.

National Management Association—Peter B. Teets, Astronautics Group president, will be the guest speaker at the Sept. 12 National Management Association, Martin Marietta Chapter dinner meeting at the Sheraton Denver Tech Center. The meeting is open to all Martin Marietta employees and guests. For reservations, call your local chapter booster or the hotline at 977-9508 by Sept. 7.
Big Game Sight-In—Martin Marietta employees and their families can participate in a rifle sight-in from 9 a.m. to 3:30 p.m. Saturday, Sept. 9, at the Waterton rifle range. The fee is \$1 per firearm. Employees who are not members of the Skyline Hunting and Fishing Club must submit their name, extension, mail stop number, and names of participating family members to Bill Boden, Mail Stop 5467, one week before the event. There must be at least one Martin Marietta employee in each car, and the guard at the main gate should be told of your intentions to attend the sight-in. Proceed directly to the range (no tours). Do not bring loaded rifles to the range.

Fall Fitness Classes—The Wellness Center at Deer Creek is offering a new class schedule beginning Sept. 10. In addition to aerobics, one class will use step-up benches to work the cardiovascular system. The ski fitness class will incorporate sport movements, weights, rubber-bands, and dyna-bands to prepare skiers for the upcoming season. A 20-use class card can be purchased for \$27, and a 10-use card is \$15. These cards can be purchased at the Wellness Center between 11 a.m. and

5:30 p.m. Monday through Friday. If you have questions, call the center at Ext. 7-7575 or 7-7576.

End the Smoking Affair—Smoking cessation class dates for next month are Sept. 10, 13, 17, and 20. The sessions take place from 5 to 6:30 p.m. at the Deer Creek Facility, Gemini Room. This American Cancer Society "FreshStart" program is offered free to all Martin Marietta employees, spouses, dependents, and Air Force personnel. Call Ext. 7-6605 to register or complete the flyer in the recreation racks or the form in the Evening Institute catalogue. Classes will also be offered in October and November.

Fathom Dive Club—Members and guests will meet at 6 p.m. for a potluck and meeting on Monday, Sept. 10, at the Greenwood Point Clubhouse, 5324 S. Broadway Circle, Englewood. For more information, contact Kristy Allison at Ext. 1-2265 or Wayne Cox, Ext. 7-6800.

Hunting and Fishing—The group will meet at 5 p.m. Monday, Sept. 10, in the clubhouse at the recreation area. For more information, contact Mel Smith, Ext. 1-8682.

Red Rock Bowmen—Interested employees and club members will meet at 4:45 p.m. Tuesday, Sept. 11, in the clubhouse at the recreation area. Prospective members are encouraged to attend and join the club. For information, contact Dave Unruh on Ext. 7-0477 or Mark Lyons on Ext. 7-5722.

Hunter Education Classes—Classes are set for 7 to 9:30 p.m. Sept. 17, 19, 20, and 24 at the VFW Hall, 3860 S. Jason St., Englewood. The range date is from 8 a.m. to 1 p.m. Sept. 22 at the club's shooting range. Students must attend all class sessions. Registration will be taken at the first class, and a minimum of 10 students is required to continue meetings. The cost is \$7. Employees, family members, and friends are welcome to attend.

Commodore Users Group—The group will meet at 5 p.m. Tuesday, Sept. 18, in the clubhouse on the west side of the recreation area.

For details, call Dan Whittemore, Ext. 7-6324.

Mile High L5—The group has changed its meeting day and location to 7 p.m. the third Friday of every month at Mile High Cablevision, east end of the McNichols Sports Arena parking lot. The Sept. 21 meeting will feature Wil McCarthy, who will discuss his recent visit to Japan's space facilities, the current space activities of both the Japanese government and private industry, and their ambitious plans for the early 21st century. For more details, contact Cyndi Bissett, Ext. 7-5844.

Winning Way To Lose—Employees can begin this eight-week, individualized weight loss program at any time. The program focuses on lifestyle change and includes measuring cholesterol, percentage of body fat, and blood pressure. Methods to achieve your personal goals are addressed during weekly consultations. Contact Diane Nolly at Ext. 7-7576 to register. The fee is \$25.

Martin Marietta Ada Working Group—Ada/Software Engineering—Interested employees will meet at 5 p.m. Wednesday, Sept. 19, at Littleton Systems Center, Presentation Room. Contact Robert Lewis at Ext. 1-6731 for information.

Satellite Ski Club—The annual fall picnic is from 5 to 9:30 p.m. Sept. 14 at the recreation area pavilion. The event is free for members and \$5 for guests. Contact Bob Foglia, Ext. 7-7122, for membership information.

MARTIN MARIETTA NEWS
Published by Public Relations
MARTIN MARIETTA
R. Christopher Talley Editor

Call Ext. 7-5364 with information for articles.
Prepared and produced by the publications department.
ASTRONAUTICS GROUP
P.O. BOX 179—Denver, CO 80201

August 31, 1990



printed on recycled paper