BROOKHAVEN BULLETIN
Vol. 44 - No. 17 April 27, 1990
BROOKHAVEN NATIONAL LABORATORY

AGS Incident Under Study

On Monday, April 16, at 4:51 p.m., after the Alternating Gradient Synchrotron (AGS) had been turned back on following an unscheduled interruption, and as the proton beam was being extracted from the main ring to go down the C beam line, the beam hit an obstruction — a brass plug known as a beam diffuser.

Normally removed prior to beam extraction, the plug is designed to diffuse any stray beam that might head down the C beam line when the C line is off. This time, the beam was on and the diffuser acted like a beam stop, spraying particles and causing unusual radiation levels in an uncontrolled area adjacent to Bldg. 912. As soon as the problem was detected, after about two minutes, the AGS was shut down.

An ongoing investigation by a team from the AGS and the Safety & Environmental Protection Division (S&EP) has found no one who was in the immediate vicinity at the time. They have also found no film badge with a radiation dose that can not be accounted for by prior work done during the month.

AGS Department Chairman Derek Lowenstein explained that most of the particle spray was safely absorbed by the concrete shielding that surrounds the AGS ring and beam lines. But the sidewall shielding right next to the point of impact was relatively thin.

Thus, radiation was emitted through the shielding into the adjacent roadway. At the roadway, the radiation dose rate was 300 millirem (mrem) per hour. Had someone been exposed to the radiation for the approximately two-minute period, that person would have received a radiation dose one-thirtieth of that dose rate, or 10 mrem.

The federal standard for employees defined as radiation workers is a maximum annual dose of 5,000 mrem, and the AGS Department's administrative guidance is 3,000 mrem. A major concern with this incident, however, was that it occurred in an uncontrolled area, which is not restricted to radiation workers. For nonradiation workers, the federal standard for an annual dose is 100 mrem.

Said Lowenstein, "We are testing the film badges of anyone who could have been working in that area, as well as anyone else who has requested it."

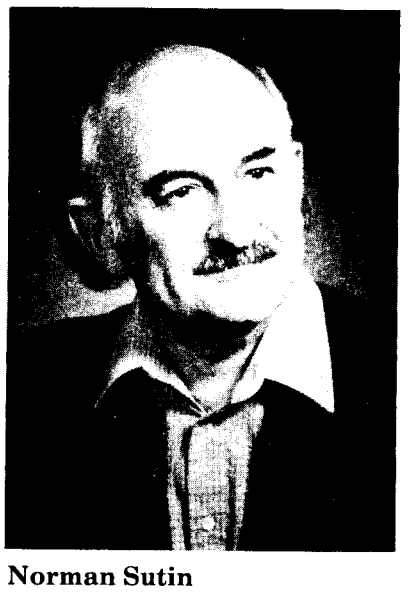
Testing has been completed on 17 of 24 film badges; one showed a dose of 30 mrem, two had 10 mrem and the rest were below measurable levels. The three that did show radiation effects, said Lowenstein, "could be accounted for by prior work done during the month. So far all have been within the standards and consistent with previous month's dosages."

To prevent any recurrence of this incident, the AGS experimental program has been shut down while AGS personnel look for other weaknesses in the shielding. "We're now probing the other beam-line areas," said Lowenstein, "and we have found nothing significant."

The Lab filed an unusual occurrence report with the U.S. Department of Energy (DOE), and the AGS and S&EP investigative team has generated an interim report, which also has been sent to DOE.

Norman Sutin Elected to NAS

Norman Sutin — Chairman of BNL's Chemistry Department, and an internationally recognized authority on the kinetics and mechanisms of thermal and light-induced electron-transfer reactions of metal complexes and metalloproteins — has been elected to the National Academy of Sciences (NAS).



Norman Sutin

This Tuesday, April 24, Sutin became one of 60 new members and 15 foreign associates of NAS, who were recognized for their distinguished and continuing achievements in original research.

The NAS is a private organization of scientists and engineers dedicated to the furtherance of science and its use for general welfare. Established in 1863 by a Congressional act of incorporation signed by President Abraham Lincoln, the Academy, upon request, acts as an official advisor to the federal government in any matter of science or technology.

Membership is considered one of the highest honors that can be accorded a U.S. scientist or engineer. Those elected on Tuesday bring the total number of current members to 1,601.

Norman Sutin was granted his Ph.D. in chemistry from Cambridge University, England, in 1953. After serving as a research fellow at Durham University, England, 1954-55, Sutin came to Brookhaven's Chemistry Department in 1956. Appointed as a research associate, Sutin became an associate chemist in 1958, was promoted to Chemist in 1961, and named Senior Chemist in 1966. Sutin began his five-year term as Chemistry Department Chairman in January 1988.

In 1983, he was awarded the American Chemical Society Award for Distinguished Service in the Advancement of Inorganic Chemistry. The New York Academy of Sciences honored Sutin with its Award in Photochemistry for 1985.

In addition to being chairman, Sutin performs ongoing research on the use of metal complexes for solar photoconversion and on the dynamics of charge-transfer processes in excited-state and metalloprotein systems.

Environmental Science Course

Scientists Become Teachers As Teachers Become Students

At the Brookhaven Center, 44 local high school teachers listen to George Hendrey, DAS, discuss his research on greenhouse gases, climate change and plants. The secondary school science and math teachers meet every Monday evening as part of a 15-week environmental science course sponsored by the Office of Educational Programs.

— Photo by Roger Stoutenburgh

Every Monday evening, 44 Long Island high school teachers become students for three hours, learning about environmental science. Doing the teaching are BNL scientists who have volunteered to share their research findings.

Held at the Brookhaven Center, the sessions are part of a 15-week course on environmental science sponsored by BNL's Office of Educational Programs (OEP), with funding from the U.S. Department of Energy (DOE). Classes started in January and will run into June.

According to OEP's Karl Swyler, the Lab's involvement with local secondary schools goes back to 1958, when several staff members gave a course in physics to a group of high school teachers. Since then, other topics have included "Energy — Its Forms and Uses," "Radiation and Humans," and "Modern Physics — from Quarks to Superconductors."

Because of the environmental focus this year, most of the BNL staffers come from the Department of Applied Science, with additional scientists from the Department of Nuclear Energy, the Biology Department, and the Safety & Environmental Protection Division.

The first evening of the course was an overview on environmental issues, given by Bernard Manowitz. That was followed by a segment dealing with pollutants in the atmosphere, given by Paul Michael, Peter Daum and George Hendrey.

Next, Jan Naidu, Arokiasamy Francis, John Suen and Edward Kaplan covered pollutants in terrestrial and aquatic environments. The current segment on global change is being presented by Hendrey, Douglas Wallace and Richard Setlow.

Still to come are Eugene Premuzic and Russell Dietz, to speak on advances in environmental technology, and the final segment will deal with environmental impact assessment and policy development, to be given by Paul Moskowitz and Sam Morris.

As one of the BNL researchers turned teachers, Francis sees this environmental course as one good way to satisfy DOE's goal of educating people about environmental issues. A microbiologist specializing in microbial cleanup of hazardous waste, Francis has helped prepare a DOE long-range planning document on the department's basic research needs in environmental restoration. He says DOE foresees an urgent need for environmental scientists, engineers and technicians. "The teachers taking BNL's environmental science course are going to motivate young people to go into such careers," he notes.

Certainly, the high school teachers are already sharing with their students some of what they have learned at BNL. Says Roger Smith, a science teacher at Shelter Island School, "One of the things this course does is keep us updated. Also, having details helps us summarize the issues for our students."

For example, Smith has already incorporated into his earth science course what he learned at BNL about acid rain. He also points out that movements of pollutants through air or groundwater make good real-life problems for chemistry and physics classes.

Smith adds, "Sometimes people don't appreciate or understand how research is done. But to see what scientists are actually doing, to see their excitement — that's something we can take back to our students, too."

— Mona S. Rowe

Power Outage: Short but Total

At 1:51 p.m. on Wednesday, April 25, the Laboratory experienced a total, site-wide power failure. Following a quick analysis by the Plant Engineering Division the Long Island Lighting Company's (LILCO) primary switch feeding power to BNL was found to be open. LILCO was immediately notified and, after assessing the situation, diverted electricity to the secondary feeder. Power was restored to the site at 2 p.m.

Dr. Smith Returns From Washington

After spending last year as a program manager for the National Science Foundation (NSF), BNL Oceanographer Sharon L. Smith has returned with a broader understanding of the ways and means of scientific-program funding, as well as greater insight into the spectrum of research within her field, biological oceanography.

At the NSF, Smith served as Associate Program Director in the Ocean Sciences Division of the Geosciences Directorate from November 1988 to December 1989.

At BNL, Smith is Deputy Division Head of the Oceanographic & Atmospheric Sciences Division (OAS), Department of Applied Science.

After holding a BNL guest appointment in 1976, Smith joined the staff as an assistant oceanographer in March 1978. She was promoted to an associate oceanographer in October 1980 and to an oceanographer in September 1983.

In addition to receiving her Ph.D. in zoology from Duke University in 1975, Smith was awarded an honorary Doctor of Science from her undergraduate alma mater, Colorado College, last fall, where she gave the opening convocation address.

On leave from the Lab, Smith was known at the NSF as a rotator — a scientist who comes from academia or a scientific institution such as Brookhaven to serve for a year or two as a program manager. "About half the program managers are permanent, half rotators — and one of NSF's strengths is its constant exchange with the active research community," explains Smith.

Established in 1950, the National Science Foundation is an independent agency of the executive branch of the U.S. Government. To promote national science policy through basic research and education, NSF provides grants and fellowships to qualified scientists, institutions and students. In addition, NSF funds BNL's sister laboratory, the National Radio Astronomy Observatory, which is also operated by Associated Universities, Inc.

Within the NSF Ocean Sciences Division, $18 million was allocated for fiscal year 1989 for biological oceanography. Smith was one among three program managers who had to give out $9 million, the half for 1989 that had not already been allocated in previous years.

To apportion this $9 million, Smith read some 300 proposals. "Taking into account the results of peer review," says Smith, "the final funding decisions were made by the program managers — and we were the ones to notify people that they did or did not get funded."

Smith also helped develop long-range plans to "sell" the ocean sciences budget within the NSF, and then to the Office of Management and Budget, and Congress.

Sharon L. Smith, Oceanography

"Since all sorts of political factors are a part of the funding process, I realized why good ideas may not be funded," she adds. "But I also learned not to abandon an idea, but to look around and recast it in a more favorable role when the time is right."

Smith uses one of her own proposals as an example: "In 1983, a few weeks before my ship was set to sail in the Greenland Sea, I got word that NSF did not fund my project. Despite the interesting science to be done there, there wasn't much interest in the Arctic among program managers at the time.

"Ironically," she continues, "when I got to Washington, one of the first things that I was asked to do — because of my Arctic expertise — was work on developing an Arctic Research Program. Since it is an early warning area for global change, the Arctic has become politically popular — and, now that I'm back at the Lab, I hope I can take advantage of its popularity by reapplying for funding."

Like a Year's Research Cruise

Smith sums up her NSF experience: "It was like being on a research cruise the entire year — there was twice as much to do as there was time to do it. I gained a lot of respect for program managers — they work very hard for the benefit of scientists."

Smith believes that scientists could benefit by learning how to work better with their program managers. In addition to writing more concise proposals that program managers can quickly read, principal investigators need to update their program managers — by placing the calls that program managers don't have the time to make.

"From my overview, it was also nice to discover that DOE's Shelf Edge Exchange Program [SEEP] is second to none of NSF's programs," comments Smith.

SEEP is an OAS research project, quantifying the extent to which materials that are produced on continental shelves are exported to the central oceans. "I found that no one has the combination of instruments and people that SEEP has, and no other similar program is so well-integrated and productive," she adds.

The cooperation of her SEEP colleagues and other collaborators in OAS, in fact, made Smith's year at NSF possible.

"I was lucky," admits Smith. "I've worked with the same technicians — Peter Lane and Eva Schwarting — for 11 years, so they know me and what I want well enough to carry out the second year of SEEP II without me. And Charlie Flagg, my collaborator in developing an acoustic Doppler current profiler as an instrument to measure zooplankton abundance for the Office of Naval Research, worked with my techs on the second year of another project called BIOSYNOP."

She sums up her NSF year, "I've come back more confident and more relaxed about the funding process because I understand how to be more effective in getting money for science."

— Marsha Belford

Directory From A to Z

The Book's First Sharon L. Smith

In the recently released, 1990 edition of the BNL Telephone Directory, there are two Sharon L. Smiths listed — as there have been for the past 11 years. Meet Sharon Louise Smith, Physics, in this story — the second in an occasional series.

" 'Gee, we just hired another Sharon L. Smith today.' "

So Sharon Louise Smith of the Physics Department was told on March 28, 1978, by a friend in the Personnel Division. From that day onward, BNL has been employing two Sharon Louise Smiths. As a result, Physics' Sharon L. Smith has been receiving some of the telephone calls and mail destined for Sharon L. Smith of the Oceanographic & Atmospheric Sciences Division, Department of Applied Science (DAS) — and vice versa.

"The confusion was the worst at the beginning, before Sharon Louise the second was established in the phone book," recalls Smith of Physics. She means both the BNL Telephone Directory and the New York Telephone white pages for Suffolk County. "The Lab operators now know that there are two of us, so they know to ask, 'Oceanography or Physics?' "

"One evening at home," remembers Smith of Physics, "I got a call from her brother — the local operator had given him my number in Manorville. I told him that I had heard through the grapevine that she had moved to Yaphank." Through similar mix-ups, the two Sharon Louises also discovered that they both have mailboxes at the Upton Post Office and one of the same physicians.

While Smith of DAS has been here for 12 years, Smith of Physics has been established at BNL since September 28, 1965, spending all of her almost 25 years in the Physics Department.

She began as a secretary for the Bubble Chamber Group, which ran the 80-inch and the 7-foot bubble chambers, which were in their day two of the largest such detectors for subatomic particles.

From 1971-74, Smith worked as a secretary for the Omega Group, which does high-energy physics research. In 1974, she moved to the high-energy physics group that built the Multi-Particle Spectrometer, at the time one of the world's largest electronic bubble chambers and the Lab's major spectrometer facility at the Alternating Gradient Synchrotron.

Promoted to executive secretary in 1977 and senior executive secretary in 1981, Smith has stayed with the group, though its name has changed — to the High Energy Particle Spectrometer Group.

Smith of Physics first met her namesake one day by the sandwich line in the Cafeteria. "Someone said, 'Hi, Sharon,' and we both turned around." After introducing themselves, they learned that, besides sharing the same name, the only thing they really had in common were a few mutual friends.

Says Smith of Physics, "I was born in Illinois, she was born in Colorado; I was born in July, she in June; and I'm one year younger — and my mother had thought that she was being so original by naming me Sharon Louise." Her mother liked the name Sharon, and added the Louise in memory of a maternal aunt.

"The other Sharon Louise has a Ph.D. in zoology behind her name, so she gets to go on cruises to the neatest places, such as Alaska — but in wintertime. I know, because sometimes I would get calls from people saying, 'Hi, Sharon, how was your trip?' " says Smith of Physics.

Sharon L. Smith, Physics

On her resume, Smith of Physics lists her service to the Brookhaven Employees Recreation Association (BERA). This includes ten years spent as an officer of the Softball League and membership on the BERA Board, from May 1987 until April 1991. Smith also knocks the pins down regularly with the Bowling League, and acted with the Theater Group.

Admits Smith of Physics, "When I was secretary of the Softball League, I know the other Sharon Louise got her share of my phone calls because alphabetically DAS comes before Physics, so her phone number is listed first in the book."

Overall, concludes Smith of Physics, "There are other Sharon Smiths out there — I've seen them on TV and heard them on the radio — but it's been amusing to know that there's another Sharon Louise Smith — and that she's right here on site."

— Marsha Belford

Women as Scientists, Women as Mothers

Ten years ago, psychologist Beverly Birns of the State University of New York at Stony Brook posed the question "Women in Science — Why So Few?" in the second lecture sponsored at the Lab by Brookhaven Women in Science (BWIS).

With the hindsight of ten years' research, Birns will reanswer her original question in a second lecture — "Women in Science, Women as Mothers." To be held on Thursday, May 3, at 5:15 p.m. in the NSLS conference room, Bldg. 725, the lecture is free, open to all, and also sponsored by BWIS.

According to Birns, there are so few women in science because of the conflict between a scientific career and a family life.

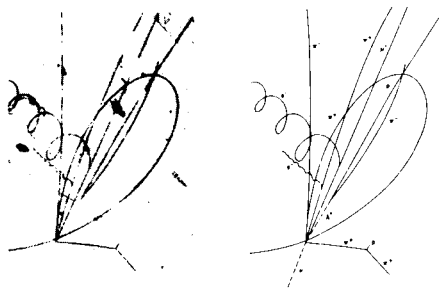
Able women drop out of science, Birns will explain, because they cannot resolve this dichotomy: They perceive that the hours expected of a scientist would not leave enough time in a day for their children. Women who remain in science, on the other hand, have made a conscious choice to sacrifice their personal life to some extent — or totally. Male scientists, Birns has found, have not made such an overt decision about family life in choosing their career.

Birns will conclude by offering suggestions for reconciling the demands of a scientific career and motherhood from institutional and personal perspectives.

Beverly Birns received her master's degree from the University of Geneva, Switzerland, and her Ph.D. from Columbia University. At Stony Brook, she is a professor of psychology, professor of the interdisciplinary program in social sciences, and coordinator of women's studies. Her research focuses on the lives of women in the sciences and technical disciplines, the societal, institutional and personal barriers they face, and how they are being overcome. She has recently co-edited the volume *Different Faces of Motherhood.*

A dinner with the lecturer will be held at the Sea Basin in Rocky Point. To make reservations, call Harriet Martin, Ext. 3487.

A Charming Discovery



Many major discoveries have been made at BNL's Alternating Gradient Synchrotron since the accelerator first reached its design energy of 30 billion electron volts 30 years ago — on July 29, 1960. Tomorrow is the 15th anniversary of the announcement of one of those discoveries — the charmed baryon.

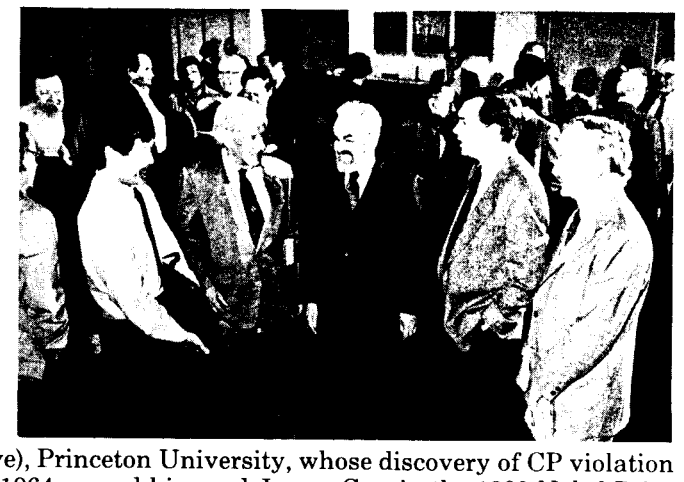
Using the 7-foot bubble chamber for the first time in 1974, a BNL group led by now BNL Director Nicholas Samios took nearly 62,000 pictures, which were analyzed in the spring of 1975. One event stood out. It was the first observation of a single particle with characteristics called "charm" — the charmed baryon, a particle made up of three quarks, one a "charmed" quark. This was an important step in establishing the existence of this new, charming member of the quark family.

As photographed in the bubble chamber, the particle event that led to the discovery of the charmed baryon is here accompanied by a sketch labeled with the particles involved in the event. Neutral particles, which leave no tracks in the chamber, are shown by dashed lines.

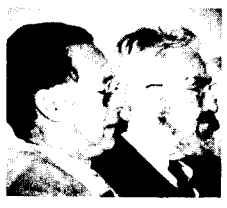
Courant Honored at Colloquia

The four-hour "Colloquia Honoring Ernest D. Courant" took place in Berkner Hall last Friday, April 18 — a moving and informative tribute to one of the premier accelerator physicists of the times.

Now an AUI Distinguished Scientist emeritus, Courant (center below and on right at bottom) came to BNL in 1948. In 1951, along with M. Stanley Livingston and Hartland Snyder, he discovered strong focusing. Also known as alternating gradient focusing, it has been a guiding principle behind all accelerators beginning with BNL's Alternating Gradient Synchrotron (AGS).



Moderating the colloquia was Val Fitch (far right above), Princeton University, whose discovery of CP violation made at the AGS in 1964 earned him and James Cronin the 1980 Nobel Prize in Physics. Speakers included (above, from left): Alex Chao, a former graduate student of Courant's at the State University of New York (SUNY) at Stony Brook, now with the Superconducting Super Collider Laboratory (SSCL), who talked about Courant's influence and the progress of the SSC; John Blewett, a retired BNL Senior Physicist who recalled the early days at the Lab, working with Courant first on the Cosmotron and then on the AGS; Ron Ruth, another former Stony Brook student of Courant's, who is now with the Stanford Linear Accelerator Center (SLAC), and who recounted how Courant's lectures had influenced his career choice and some new directions in physics; and Robert Palmer (left, in photo at left), BNL, SLAC and SSC, who discussed linear accelerators as a means of going beyond size limitations posed by circular accelerators to reach ever higher energy regions.



Coming Up

Harvey Brooks, emeritus professor of applied physics and of technology and public policy at Harvard University, will begin his stay at BNL as the Lab's sixth Haworth Distinguished Scientist, on Monday, May 7.

At 4 p.m. that afternoon, he will deliver a Labwide lecture on "Science and Technology Policy and the American Competitiveness Debate." The talk will take place in Berkner Hall and will be followed by a reception.

Brooks began this appointment last January, but the talk was postponed due to snow. While he is at the Lab, his host will be the Department of Applied Science. For more information about Brooks's schedule while at BNL, call Pat Taylor, Ext. 2452.

New Season at Pool

A new four-month swimming pool season begins on Tuesday, May 1. Season passes, good for the months of May, June, July and August, may be purchased at the pool.

Volleyball

The Volleyball Awards Dinner will be held at Rock Hill Country Club on Friday, May 18, from 6 p.m. to midnight. Tickets purchased by May 14 will cost $15, which includes a hot and cold buffet, cash bar and music by Ed Taylor. After May 14, tickets will cost $18.

Tickets are available from Kathi Barkigia, Ext. 7661, Bldg. 555; Terry Sullivan, Ext. 2840, Bldg. 830; and Frank Haibon, Ext. 2375, Bldg. 211.

Election of officers for the 1990-91 volleyball season will be held on Wednesday, May 2, at noon, in Room B, Berkner Hall. All current team captains or their representatives should attend.

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Published weekly
by the Public Affairs Office
for the employees of
BROOKHAVEN NATIONAL LABORATORY

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Service Awards

The following employees celebrated their BNL service anniversaries during the month of April:

30 Years

Michael A. Zguris.....AGS

25 Years

Frederick J. Altrui.....Con. & Proc.
Bonnie W. Hulse.....Chemistry
George F. Martin Jr......AGS

20 Years

Kenneth P. Wokosky.....AGS

10 Years

Robert E. Barletta.....Nuc. Energy
John J. Bohenek.....NSLS
Pamela M. Campbell.....Accel. Dev.
Marilyn Gibbons.....Plant Eng.
Steven W. Kemp.....NSLS
Sushil K. Sharma.....NSLS

Arrivals & Departures

Arrivals

Sorin-Viorel Badea.....AGS
Carol A. Neger.....Fiscal

Departures

This list includes all employees who have terminated from the Lab, including retirees:

Lisa A. Restagno.....DNE

Hospitality News

Maxine Wofse, a staff member of Brookhaven Memorial Hospital, will speak on "Women and Self Worth," at the next Hospitality Committee get-together on Tuesday, May 1, at 9:30 a.m., in the lobby of the Brookhaven Center.

Spouses of Lab employees and guests are welcome. Coffee, tea and danish will be served. Bring the children, as free babysitting will be provided.

A Day at the Races

Brookhaven Women in Science (BWIS) will sponsor a trip to Belmont Park on Saturday, May 19, rain or shine, to see the "Day at the Races" program. Proceeds from the trip will go to BWIS's Renate W. Chasman scholarship.

The $40 cost of the trip includes bus fare, admission to the Belmont Park clubhouse, lunch, a program and an informational talk about horseracing and betting.

The bus will leave the BNL Cafeteria at 9:30 a.m., and make a stop at the commuter parking lot Exit 63, LIE, at 9:45 a.m.

Tickets may be purchased by May 1, either from Harriet Martin at the Research Library, or at the Cafeteria at lunchtime on April 20 and 23.

For more information, call Pat Giacalone, Ext. 4628; Susan Hobbie, Ext. 7511; Ruth Kempf, Ext. 7226; or Harriet Martin, Ext. 3487.

Photos on these pages by Roger Stoutenburgh.

Secretary Team Helps Tiger Team

The Tiger Team leaves today, after four weeks of assessing BNL's compliance with all applicable environmental, safety and health laws. The Team, however, leaves behind its support staff — the 12 BNL secretaries who arranged the logistics of the Team's visit and typed, among many other documents, the final draft of the assessment report.

According to Janice Lamb (second, clockwise from left), Director's Office (DO), who oversaw the secretarial support staff, its members were handpicked from the Personnel Division's secretarial pool (SP) and various departments because of their proficiency with WordPerfect 5.0 and other IBM PC software — as well as their ability to work well under pressure. Joanne Dolan (third, clockwise from left), DO, supervised the word-processing effort.

At work in Compton House, the Tiger Team's headquarters since March 26, are: (clockwise from left) Rae Bailey, SP; Janice Lamb, DO; Joanne Dolan, DO; Audrey Bangel, SP; Jean Frejka, Department of Nuclear Energy (DNE); Georgia Afxendiou, SP; Patricia Kriss, SP; Sheree Flippen, DNE; Ellie Karlund, SP; Virginia Richardson, Department of Applied Science; Katherine Becker, DNE; and Judy Badal, DNE.

The Tigers' secretarial support staff had support of their own — ten other secretaries were called away from their usual duties to provide extra help or perform overtime during the Tigers' visit. They include: Rosemarie Cannella, DO; April Donegain, Fiscal Division; Marie Gavigan, SP; Jane Hodgkinson, SP; Eleanor Hughes, DO; Ann Marie Luhrs, Personnel; Grace Nubla, DNE; Rosa Palmore, Personnel; Lisa Seymore, DNE; Jean Stafford, SP; and Elaine Zukowski, DO.

A Family Show: Magician-Ventriloquist

Children's magician and ventriloquist John Carlson will perform at BNL on Sunday, April 29, at 1 p.m., in the Recreation Building. Sponsored by the Upton Nursery School, the show is open to the public. A donation of $5 per family is requested.

The Upton Nursery School is a cooperative nursery school open to children of BNL employees, relatives of employees, and BNL visitors. At the show, applications will be distributed for September 1990 enrollment for three-and four-year-old children.

For more information, call Kathy Hershcovitch, 331-3785.

On the Menu

At the Cafeteria

Luncheon served 11:15 a.m. to 1:30 p.m., grill open to 3:45 p.m., Cafeteria closes 4 p.m.

Monday, April 30

Soup: Lentil	.75/.95
Entree: Special taco bar	(each) .90
Entree: Baked Hawaiian pineapple	3.10
Fitness: Baked marinated fish	3.10
Carvery: Pastrami sandwich	2.85
Grill: Western omelet sandwich w/fries	2.85

Tuesday, May 1

Soup: Old-fashioned cabbage	.75/.95
Entree: Braised short ribs of beef w/veg.	3.10
Entree: Seafood fried rice	3.10
Fitness: Baked chicken	3.10
Carvery: Hot roast beef sandwich	2.85
Grill: Reuben	2.85

Wednesday, May 2

Soup: Turkey Creole	.75/.95
Entree: Arroz con pollo (chicken)	3.10
Entree: Baked meat loaf & gravy w/veg.	3.10
Fitness: Baked fish w/mushroom wine sauce & veg.	3.10
Carvery: Baked fresh ham sandwich	2.85
Grill: Pizza burger w/fries	2.85

Thursday, May 3

Soup: Cream of broccoli	.75/.95
Entree: Chicken cacciatore	2.95
Entree: Baked pork chops w/applesauce	3.00
Fitness: Baked cod Bella Vista	3.10
Carvery: Hot corned beef sandwich	2.85
Grill: California burger w/fries	2.85

Friday, May 4

Soup: Clam chowder	.75/.95
Entree: Baked fish Gardener w/veg.	3.10
Entree: Shish kebab	3.10
Fitness: Beef goulash	2.00
Carvery: Hot turkey sandwich w/cranberry sauce or gravy	2.85
Soup & Grill: Gyro special	3.00
Sandwich special: Any sandwich w/bowl of soup, deduct .25	

Help Wanted at Cafeteria

Service America Corporation, which runs BNL's Cafeteria, needs waiters and waitresses to work at the Brookhaven Center Club and at catered affairs. Service America is an equal opportunity employer. Apply in person at the Cafeteria or call Todd Gross, Ext. 3541.

Classified Advertisements

Placement Notices

The Laboratory's placement policy is to select the best-qualified candidate for an available position, with consideration given to candidates in the following order of priority: (1) present employees within the department and/or appropriate bargaining unit, with preference to those within the immediate work group; (2) present employees within the Laboratory as a whole; and (3) outside applicants. In keeping with the Affirmative Action plan, selection decisions are made without regard to age, race, color, religion, national origin, sex, handicap or veteran status.

Each week, the Personnel Office lists new personnel placement requisitions. The purpose of these listings is, first, to provide open placement information on all non-scientific staff positions; second, to give employees an opportunity to request consideration for themselves through Personnel; and, finally, for general recruiting purposes. Because of the priority preference policy stated above, each listing does not necessarily represent an opportunity for all candidates. As a guide to readers, the listings are grouped according to the anticipated area of recruitment.

Except when operational needs require otherwise, positions will remain open for one week following publication date.

For further information regarding a placement listing, contact the Employment Manager, Ext. 2882.

The vacancies listed below have been exempted by the Director's Office from the current freeze on open requisitions.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees only.

4214. MATERIAL HANDLERS - (temporary positions o/a 6/4/90 to 8/31/90) Supply and Materiel Division.

4215. TOWER LINEPERSON - Under minimum supervision, installs, repairs and maintains, overhead and underground electrical distribution lines, systems, equipment, control and related devices ordinarily of 2300 volts and over. Duties include rigging, electrical and mechanical work incidental to these responsibilities. Plant Engineering Division.

4216. SECRETARIAL POSITION - Requires AAS in secretarial science or equivalent and a thorough knowledge of Laboratory policies and procedures. Excellent communication skills and well-developed interpersonal skills are necessary. Word processing required; IBM PC WordPerfect preferred. Will perform diverse secretarial duties including processing research proposals, distribution of computer runs, material requisitions, ILRs and correspondence. Budget Office.

4217. SECRETARIAL POSITION - Requires AAS in secretarial science or equivalent and a knowledge of Laboratory policies and procedures. Previous word-processing experience is required; WordPerfect preferred. Excellent communication skills and demonstrated math abilities are also required. Will provide secretarial support, including preparation of reports and correspondence, and processing POs and ILRs. Staff Services Division.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside applicants.

4218. REFRIGERATION AND A/C ENGINEER - Requires substantial experience troubleshooting, repairing, installing and operating commercial/industrial air-conditioning and refrigeration equipment including steam absorption, centrifugal and helical-screw refrigeration machines. Successful completion of refrigeration and A/C apprenticeship program or related course work is highly desirable. Must be able to work shifts as required. Plant Engineering Division.

Motor Vehicles & Supplies

88 KAWASAKI EX500 - white, 4,800 mi., helmet, hold-down net, like new, $2,400. Steve, 722-4821.

88 MUSTANG LX - 4-cyl., loaded, Trick edition, white, blue int., 29k mi., extended warranty, car cover, mint cond., $8,500. Emil, Ext. 4289.

88 CHEVY CAVALIER - a/t, p/s, p/b, 29k mi., excel. cond., $4,800. Chris, Ext. 7636.

88 NISSAN SENTRA - 2-dr., gray, 4-spd., am/fm cass., new tires, good cond., $4,500 neg. Ext. 5475 or 369-4099 after 6 p.m.

87 PONTIAC FIREBIRD - fuel inj., V-6, a/t, p/w, tilt, c/c, am/fm cass., 25k mi., $7,800. Barry, Ext. 5624.

86 CHRYSLER LEBARON GTS - loaded, turbocharged, black, 28 mpg, 4-dr., 60k mi., well maintained, mint cond., $5,000. Ted, 928-1445.

86 HYUNDAI EXCEL - excel. cond., $1,500. Mike, Ext. 7941.

86 HYUNDAI - 5-spd., ac, 34k mi., am/fm stereo, asking $2,800. Ext. 3702 or 751-1042 after 7 p.m.

86 NISSAN MAXIMA SE - V-6, 5-spd., loaded, 50k mi., excel. cond., $7,900. Gary, Ext. 4532.

86 TOYOTA PICKUP - 5-spd., 59k mi., alarm, tinted windows, 31" tires, stereo w/amp, excel. cond., $5,995. Danny, Ext. 4988 or 286-8541.

85 FIREBIRD - T-top, power, a/c, 8/5.0, am/fm cass. stereo, tint, white w/gray int., mint cond., $6,450. Diane, 244-2752.

84 CHEVY C30 SILVERADO PICKUP - 454 V-8, a/t, ac, tow pkg., 411 posi rear, dual tanks, cap, asking $6,200. Walter, Ext. 3848 or 281-9299.

84 MAZDA B2000 PICKUP - 60k mi., full cap, 5-spd., gray, $2,200. Mike, Ext. 7594 or 325-1711.

84 FORD ESCORT - 50k mi., good body, interior & tires, new exhaust system, motor needs work. Frank, Ext. 2314 or 567-5131.

83 CHEVY S-10 PICKUP - 4-spd., long-bed, 67k mi., v.g. cond. 325-0447.

83 YAMAHA VIRAGO MOTORCYCLE - 750cc, 24k mi., black, garaged, extras, mint cond., Charles, Ext. 5385.

82 PLYMOUTH RELIANT WAGON - new tires, a/t, p/s, p/b, ac, cruise, runs well, clean in & out. Judy, 924-6129.

82 T-BIRD HERITAGE - loaded, gray velour int., high mi., good cond., $1,900. Mike, 878-0487.

81 OLDS CUTLASS - many new parts, motor needs work, $800. Haim, Ext. 3293 or 3077.

81 FORD ESCORT - 4-spd., am/fm, high mileage, runs well, $425. Ext. 2015 or 929-5911.

80 CHEVETTE - 4-spd., 2-dr., good cond., $475. Ext. 7333.

80 DATSUN - 4-spd., am/fm cass., new exhaust syst., runs well, ask. $650. Ext. 3537 or 399-4399.

80 CUTLASS SUPREME - 60k mi., new tires, excel. cond., $1,500. 928-6541.

80 PONTIAC SUNBIRD - a/t, p/s, new battery, brakes, exhaust, tune-up, good cond., $850. Bill, Ext. 4986 or 563-1940.

80 FORD FAIRMONT - s/w, high mi., good work car, needs some work, new tires, $600. Ext. 4140.

79 COUGAR XR7 - p/s, p/b, ac, p/w, am/fm cass., needs some work, make offer. Tom, 698-3724.

79 VW SCIROCCO - good mech. cond, reliable, trans., $1,200. Ext. 4690 or 265-5218 after 6 p.m.

79 HORIZON TC3 - new batt. & exhaust, body good, needs clutch, runs well, $350. 821-0125 eves.

77 VIKING CAMPER - pop-up, 21', elec., refrig., v.g. cond., $800. Dan, Ext. 4967 eves., or 698-7322 days.

77 PONTIAC FIREBIRD - T/A, 400 c.i.d., drive line, completely finished body, black, w/add ons, good cond., asking $3,700. Tim, 281-7873.

77 TOYOTA CORONA - 5-spd., new tires, body rusted, good for parts, $150. Ext. 4692 or 878-2040 after 6 p.m.

Boats & Marine Supplies

31' CORVETTE - classic lines, keel/cb, fiberglass, lots of teak, Atomic 4, 7 sails, v.g. cond., must sell. McGeary, 363-2796.

28' DORY CAPE SAILBOAT - 1975, includes cradle, Volvo diesel, fully equipped, great shape, $23,500. Roger, Ext. 2382.

25' MORGAN SAILBOAT - keel/cb, draws 2'9", new sails, outboard, many extras. $6,000. Steve, Ext. 4008.

24½' THOMPSON EXPRESS CRUISER - 230-h.p. O.M.C., outdrive, prop., manifolds, batt., VHF, hot water, elec. anchor, more, $9,995. 567-1358.

23' O'DAY - loaded, cruising, racing, 6 sails, VHF, Loran depth/spd., dodger, solo handling, excel. cond., extras, $13,500. 286-1024.

23' CHRIS CRAFT - new engine & canvas, mooring, cradle, lots of extras, great family & fishing boat, $4,200. 928-7734.

22' SEYLER - 1987, 235-h.p. Evinrude, cuddy cabin, full canvas, D/F, cb, VHF, porta-potty, mint cond., $12,500 or 878-1013.

21' GLASSTREAM - 1987, cuddy, 140-h.p. Mercury I/O, trailer, low hrs., excel. cond. 475-3094.

21' MAINE LOBSTER BOAT - 1975, fiberglass hull, 2 berths, 90-h.p. Chrysler ob, fast, able, well equpped, $3,500. Thorndike, 286-8369.

19' PEN-YEN - 1969, w/1976 115-h.p. Johnson, Coast Guard pkg., rebuilt trailer w/elec. winch, many extras, excel. cond., $3,000. Vito, 243-2743.

19' FLYING SCOT HART SAILBOAT - sails, spinnaker, trailer, excel. cond., best offer. Perlman, 472-1174 eves.

19' BOWRIDER CRUISER - 1972, w/1976 115-h.p. Johnson, Coast Guard pkg., trailer w/electric winch, $3,000. Frank, Ext. 2314 or 567-5131.

18' CATAMARAN - trailer, beach wheels, extras, asking $1,800. Steve, Ext. 4008 or 821-0686.

18' GLASSPORT BOWRIDER - 1983, w/90-h.p. Evinrude, trailer, mooring cover, approx. 110 hrs., ask. $2,800. Chris, Ext. 2022 or 395-6112.

12'10" AMF ZUMA SAILBOAT - 1986, fiberglass, standard, white, mast, dacron sail, $695. 348-1391.

ELECTRA SPORT CATAMARAN - holds up to 2 adults, brand-new, inflatable, make offer. Charles, Ext. 5385.

YAMAHA WAVE RUNNER - 1989, very low hrs., w/trailer & 2 vests, excel. cond., $3,800 or best offer. 744-1610.

Furnishings & Appliances

DISHWASHER - portable, $88; doghouse, 32"x48", $25; kitchen sink faucet & cabinets. Bill, Ext. 2378 or 758-3284.

WASHER - full size, 1½ years old, $150. Ext. 2484 or 689-9328 eves.

SCHOOL DESK - children's, early American, $35; Singer sewing machine stand, wrought iron, antique, $35. Andy, 281-8274.

DESK - $50; crib, $30; living room set, $600 neg. Ext. 3702 or 751-1042 after 7 p.m.

MIRRORS - 3, attached hinged panel mirror, 6'h x 2'w, chip in 1 panel, $75. Rich, Ext. 3979.

BEDROOM SET - good cond.; dining room set, good cond. Gerry, 281-7230 after 2 p.m.

BEDROOM SET - triple dresser, chest, mirror, night table, bed, $450; kitchen set, oak/brass/glass, seats 4, $90. 244-2752 after 6 p.m.

FAUCET - Delta, single lever, excel. cond., $12. Mike, Ext. 7941.

HEADBOARD - early American, hard wood, $50; cocktail table, hard wood, 2 drawers, $50; 19th century china closet, oak/glass, $86. 751-8462.

DESK - powder blue, $50; 9-drawer dresser, powder blue, $75; solid walnut table, $65; brass whale tape dispenser, $10. Kathy, 744-2203.

BEDROOM FURNITURE - 3 piece, Colonial, triple dresser, mirror, dresser, $125. 924-1346.

CHINA CABINET - mahogany, $250; 2 twin mattresses & 2 foundations, $25/ea.; 2 brown velvet swivel rockers, $150/both. 878-0514.

COFFEE TABLE - Contemp., 2 end tables w/glass tops, $100; Munsey 2-burner hotplate, $15; king-size water bed w/leather rails, $175. 584-3072.

DESK - executive secretary, walnut, high back executive swivel chair, blue leather, excel. cond., $500. Ext. 7333.

Tools, House & Garden

CEMENT MIXER - ½ bag size, electric motor, good shape, $100. Yelk, Ext. 4786 or 281-7683.

ANNUALS - $11/flat; hanging fuschia & geranium baskets, $11; geraniums, $2.25; shrubs also available. Ken, 744-0722.

PATIO UMBRELLA - giant, $20; men's train conductor hat, $10; cat plate, $10; leather pocketbook, $10. Kathy, 744-2203.

PICNIC TABLES - 2'x6', solid cedar, fully assembled, delivered, $150. Tim, 744-8279.

WATER TANK - 30 gallon, glass lined, $100. Kathy, 744-2203.

STORM WINDOWS - aluminum, 8 each, 2'4" x 4'6"; aluminum storm window, 2'x3', $100/takes all. 924-3236.

Sports, Hobbies & Pets

FISH TANK - 55 gallon, w/all access., like new, real bargain. 878-0516.

MOTORCROSS RIDING GEAR - boots, helmet, belt, gloves, etc., almost new. Ext. 3309.

EXERCISE TREADMILL - manual, assembled, never used, like new, $75. Ext. 4153 or 732-5829.

DOG CRATE - 21"h x 27"l x 17"w, $35. Duke, Ext. 2957.

BICYCLE BASKET - metal, $10; man's bowling ball, $20; swim mask, $10; woman's golf clubs, $10; steel tennis racket, $10. Kathy, 744-2203.

SKI MACHINE - Nordic, good cond., orig. $150, sell for $75. Joe, Ext. 4661.

BIRD CAGE - w/stand & access. Joe, pager 0925 or 728-1859 eves.

Audio, Video & Computer

TURNTABLE - Pioneer Quartz, direct-drive, PL-540, mint cond., albums, $85. Georgia, Ext. 2384.

COMPUTERS - model 100, portable, $225/both; Clarion stereo, am/fm cass., pre-sets, auto-scan, search, orig. $329, now $200 firm. Tom, 698-3724.

Miscellaneous

HEALTH CLUB MEMBERSHIP - Jack LaLanne, Olympic lifetime membership, valid at any club in any state, $600. Tracy, Ext. 3681 or 929-4898.

GOWNS - spring/summer, ideal for proms, weddings & parties, worn once, dry cleaned, size 6/8. Dolores Janes, Ext. 2950.

CLOTHES - man's sports jacket, new, size 40, $20; wool sweaters, medium, $10/each; brown jeans, size 36, $10. Susan, Ext. 7716.

LUGGAGE - carry-on, vinyl, new, $10; garment rack, good cond., $10. Ext. 7716.

SKI JACKET - man's medium, blue, hardly worn, $20. Mike, Ext. 7941.

Free

DISHWASHER - portable, avocado, works well, you pick up. Ext. 3309.

STEREO PLAYER - am/fm, 8 track w/speakers, Mediterranean, you pick up. Terry, 281-7230 after 2 p.m.

KITTEN - 3 mo. old, pure black w/golden eyes. 698-1971.

Car Pools

BOHEMIA-OAKDALE-SAYVILLE - need 2 more drivers for car pool, also can meet at Exit 59 LI Expressway. Frank, Ext. 2314.

BABYLON - share vehicle and expenses with one or two drivers. Ray, Ext. 3680.

Yard & Garage Sales

HAUPPAUGE - Sat. & Sun., April 28 & 29, 30 Del Place, 9 a.m.-4 p.m. 924-4058.

WADING RIVER — Fri. & Sat., April 27-28, children's & maternity clothing, 9-2 p.m., rain cancels, 479 Oakwood Drive, follow signs.

MANORVILLE - April 27, 28, 29, tools, household, large variety, No. Halsey Manor Rd.

Real Estate

Real Estate advertised for sale or rent is available without regard for the race, color, creed, sex or national origin of the applicant.

For Rent

BROOKHAVEN HAMLET - 3-bdrm. house, fenced yard, quiet neighborhood, avail. mid-May, $875. Drue, Ext. 2290, or 281-3479.

CALVERTON - 2-bdrm. townhouse, 1½ baths, w/w, appl., patio, deck, $750. 878-0874 after 5 p.m.

MEDFORD - 1-bdrm. apt., priv. bath, priv. ent., microwave, small refrig., no children, no pets, nonsmoker, $100/wk. + sec. 475-7250.

PATCHOGUE - 2 apts., both w/full kit. & bath, no pets: 1st floor studio, nonsmoker, $500/mo. pays all; 1 bdrm., furn. or unfurn., walk to town, $600/mo. pays all + sec. Ext. 4087.

RIDGE - 1-bdrm. apt., full bath, l/r, w/w, cable, priv. ent., 5 min. to Lab, mature working person, $600/mo. incl. all, + 1 mo. sec. Mike, Ext. 7625 or 924-0341.

ROCKY POINT - 3-bdrm. ranch, l/r, dinette, finished bsmt. w/wood stove, OHWH, city water, 100'x100' lot w/fenced back yard, avail. July 1, $850 + util. Mike, Ext. 2500.

SOUND BEACH - 1 bdrm., bath, kit.-l/r combo, cable, priv. ent., $600/mo. all; 2-bdrm. apt., bath, l/r, kit., in S.B., near shops, beach, $675/mo. + elec. Ext. 2671 or 744-3284 after 4 p.m.

For Sale

CENTERPORT - 220' waterfront on Northport Harbor, 4-5 bdrms., 4 baths, 0.6 acre, dock, $625,000. Bob, Ext. 4044 or 261-3890.

CENTEREACH - 4-bdrm. hi-ranch, l/r, d/r, eik, 2 full baths, large fam. rm. w/fp, deck, pool, large fenced yard. $145,000. 698-8514.

MASTIC — 3-bdrm. ranch, den, l/r, gar., 0.375 acre, new windows, w/w, lots of extras, $120,000. 399-3303.

MATTITUCK - 3-bdrm. house, 1½ baths, fin. bsmt. w/fp, bar, ¾ acre, low taxes, $139,000. 298-8537.

MEDFORD - 2-bdrm. ranch, new kitchen, all cedar Florida rm. w/skylights, woodstove, shop, solar HW, gar., Andersen windows, fuel bill $300/year, 9 miles to Lab. 654-2617.

MILLER PLACE - 2 bdrm., 1 bath, l/r, sun porch, exp. attic, 2-car gar., 50'x100', new roof, alum. siding, oil heat, ask. $120,000. 473-3987.

RIDGE - 4-bdrm. Colonial, 2½ baths, eik, d/r, l/r, w/w, gar. deck, ½ acre, minutes to Lab., $150,000. 924-7520.

RIDGE - 3-bdrm. townhouse, 1½ baths, cac, w/w, all appl., upstairs newly carpeted, encl. redwood patio, storage room, low monthly main., 5 min. to Lab, priced to sell. Mary, 924-4328.

RIDGE - 3-bdrm. hi-ranch, l/r w/cathedral ceiling, large eik, full bath; down, l/r, bdrm., kitchen, full bath, oversized 2-car gar., gas heat, all appl., min. to Lab, $135,000. 744-0345.

RIDGE - 2-bdrm. duplex, 1½ baths, eik, cac, w/w, all appl., 5 min. to Lab, $79,900. Erik, Ext. 2437 or 924-2898.

ST. JAMES - 4-bdrm. Cape, oak and ceramic floors, full bsmt., 2-car gar., walk to shopping, $164,500. Ext. 4138 or 751-9096.

SETAUKET - central-hall Colonial near SUNY, 4 bdrm. w/master suite, 9 rooms, 2-car gar., bsmt., igp, ½ acre, sacrifice at $206,000. 751-9096.

SHOREHAM - 3-4 bdrm. contemporary, ½ acre, ig sprinklers, eik, l/r, d/r, 1½ baths, new carpeting, all appl., large storage workshop room, 5 min. to Lab., $163,000. Ext. 2833 or 744-7172.

YAPHANK - 3-bdrm. condo, 2½ baths, fin. bsmt., wood floors, ac, 5 min. to Lab., $120,000. 751-2216.

EFFORT, PA - acre + in the Poconos, wood lot, paved road, clubhouse and outdoor pool, near ski areas and other attractions. 874-2315.

COLLINGTON HARBOR, NC - waterfront, deep water canal, bulk head, 50'x150', 24-hr. security, Olympic swimming pool, tennis courts, marina, ramp, $48,000. Ralph, Ext. 4446.

HOMMASASA, FL - 2.5 acres off Rte. 19, west coast. Gerrie, 281-5565.

TAMPA, FL - Paradise Village Mobile Home Park, 1982 Liberty mobile home 14'x56', 2 bdrms., 1 bath, fam. park, all appl., cac & heat, awning & shed, excel. cond. Glenn, 477-8699.

Wanted

HOUSE TO SIT - free, experienced, reliable, any period after May 15, enjoy peace of mind while on vacation. J. Allentuck, Ext. 2412.

DESK - office type, metal or wood, shabby condition OK, cheap. Karen, Ext. 4262.

SINGER - for hard rock band, Zep, Aerosmith, Zebra, etc. Ken, 473-7460.

HOUSEMATE - share 2-bdrm. apt., 2 baths, pool, tennis courts, etc., included, 6 miles to Lab, $462/mo. Susan, 874-2315.

DOUBLE STROLLER - front to back seats. Pam, Ext. 4382 (M & Tues.) or 286-8380.

WANTED - sign engraver machine, reasonable. 563-1940.

HOUSEMATE - East Setauket, $287.50/mo. + ¼ util., avail. June 1st. Terri, Ext. 2484 or 689-9328.

DESK - oak teacher's desk for restoration, reas. cond. & price. Bill, Ext. 2378 or 758-3284.

EARTH SHOES - any style, sizes 8½, 9, 9½. Chris, Ext. 4701.

GROCERY RECEIPTS - Finast & King Kullen for BNL food drive, ask others to save them. Send to Carole Kerr, Bldg. 460.

Ads left out of this issue due to lack of space need not be resubmitted to appear in the next issue.