BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

UPS Cushions Down

When your ceiling lights flicker, you usually think nothing of it and continue going about your business. But if your business is running fancy computers, then any power interruption, even for the merest fraction of a second, can be disastrous.

The instant a computer loses electricity, it shuts down. While this is in itself irritating because of work delay, things could be worse, and they often are. Take away power, and the cooling fans don't work, locking in residual heat. This addles the insides of a computer, making it unreliable for weeks. If a power break occurs when a computer is writing information to its storage file, all the data can be lost, and along with it, the labor of several hundred people.

The best way to turn off a computer is to *plan* to do it. An orderly shut down, with enough time for cooling, takes about five to eight minutes. How does one buy that kind of time?

As of a few weeks ago, all three giant computers in the Central Scientific Computing Facility of Applied Math are protected from the vagaries of power companies. Now when electricity goes on the blink, it's not oops but UPS.

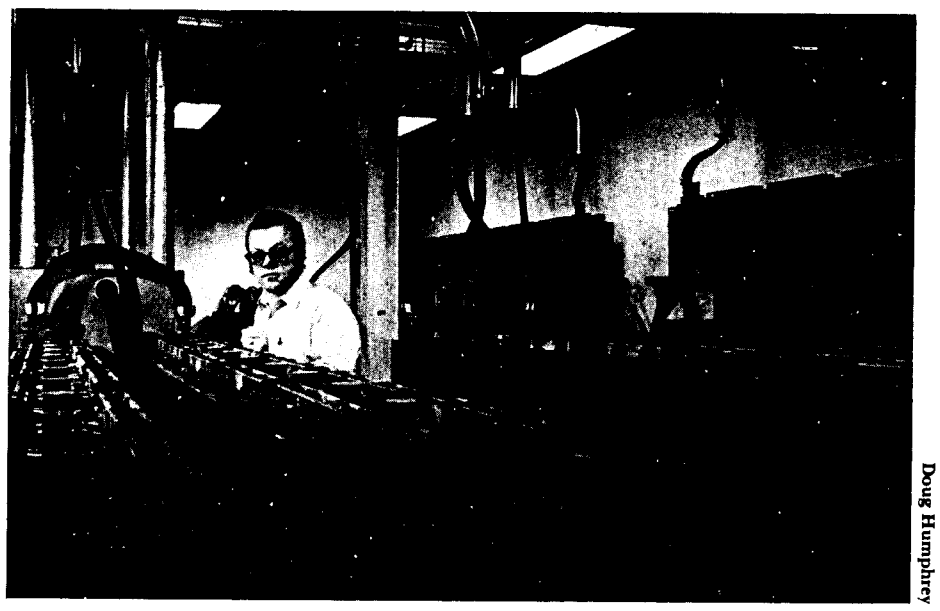
UPS, for Uninterruptible Power System, is a big battery that can run the computers for ten minutes, enough time for computer operators to do a proper shut down. "I'm sure the name was a deliberate choice," chuckles Clarence Pittenger, Group Leader for computer hardware maintenance in Applied Math. Pittenger handled the entire project, from researching to installing to testing it. UPS was funded by DOE. "It cost about $600,000, but it's protecting millions of dollars worth of computers," says Pittenger.

Electricity from LILCO now runs to the computers through UPS. With everything connected in that order, UPS is always fully charged, and the computers never see momentary power interruptions. In fact, even the computer operators wouldn't notice if they didn't have sitting on their console a timer that clicks off the seconds when UPS is being drained. If a full minute clicked by, the operators would automatically begin shutting down, a task they can accomplish within the remaining nine minutes of battery power.

What does UPS look like? Actually, it's not one but 376 batteries all interconnected. They resemble large versions of the one in your car, but without the colorful packaging. Besides the batteries, UPS also consists of several large components like battery chargers, inverters and necessary equipment control panels.

All of UPS is buried underground. Around the back of the Applied Math building, the grass gives way to pebbles, which mark the roof over UPS. The original basement of the building could not accommodate it, so a new area was excavated.

Pittenger says on the average, the computing facility experiences each year about 18 power interruptions of the blinking light variety. For the few weeks that UPS has been in place, there haven't been any power outages, but Pittenger is confident that UPS will perform as perfectly as it did when it was tested. Still, he says people can't wait for the electricity to fail, just to see what happens. "But that's the whole point of UPS," says Pittenger. "If we do lose power momentarily, we'll never notice."



Doug Humphrey

Clarence Pittenger, Applied Math, stands among 376 batteries that are part of UPS, a new back-up power supply system for the computers in the Central Scientific Computing Facility.

It's How You Say It

Four years ago, a dynamic young woman came to Brookhaven to talk to employees about how to communicate more effectively, both at work and in social situations. She was so enthusiastically received that the Personnel Office later engaged her for a series of workshops on assertive communication and on public speaking.

Francine Berger

On April 1, Francine Berger is coming back again to present a lecture on "Assertive Communication." The lecture is open to all employees and their guests and will be given at 7 p.m. in Berkner Hall. A question and answer period will follow the lecture. If you plan to attend, Bill Hempfling, Personnel, would appreciate a call on ext. 2878.

Speaking up assertively, but not agressively, is a cornerstone of Ms. Berger's presentation. It is also important to be aware of the signals one gives to others by means of body language and voice. And being able to listen properly, to grasp the meaning behind the words, is probably one of our least developed skills, says Ms. Berger.

Now president of her own company, Speechworks, Francine Berger is a popular lecturer and has given many seminars around the country. She is an adjunct instructor in oral communication at the N.Y. State School of Industrial & Labor Relations, Cornell University, and is a lecturer and workshop leader for Lecture Consultants of Long Island. She has made numerous appearances on Long Island radio and television and is co-author of the just-published book, "Image Impact: The Aspiring Woman's Personal Packaging Program." Ms. Berger was Adjunct Associate Professor of Speech at Dowling College from 1966-1978 and has a master's degree in Speech Communication from Brooklyn College.

Patents Awarded

Thomas E. Botts and **James R. Powell,** Department of Nuclear Energy, were issued U.S. Patent No. 4,226,369 for inventing both an apparatus and a method for the destruction of particles entrained in a gas stream. Their invention is particularly adopted for the protection of turbine blades in open cycle coal-fired turbine systems.

James G. Cottingham, Accelerator Department, was issued U.S. Patent No. 4,226,657 for developing a reflector of the reflecting film type that may be used in a heliostatic system for concentrating solar energy. In his invention, reflecting film is bonded to a rigid substrate in such a way that specularity of a very high order is achieved.

Only The Name Is The Same

Last spring, Susan Maynard was a student at Mansfield State College in Pennsylvania and had just learned that she would be interning at the Lab for the summer of 1980. As she was traveling through New York State on a bus trip, a building with a familiar name came into view. A friend asked her, "Is *that* where you're going for the summer? Susan laughed and snapped this picture as a memento.

Since the bus continued on its way, she was unable to find out why it bore the inscription "1931 — Brookhaven." However, it bears no relationship to BNL.

Anyone familiar with Lab history would know that the mystery building could not be part of BNL, since the Lab was not founded until 1947. In 1931, this site was resting quietly as the Upton National Forest.

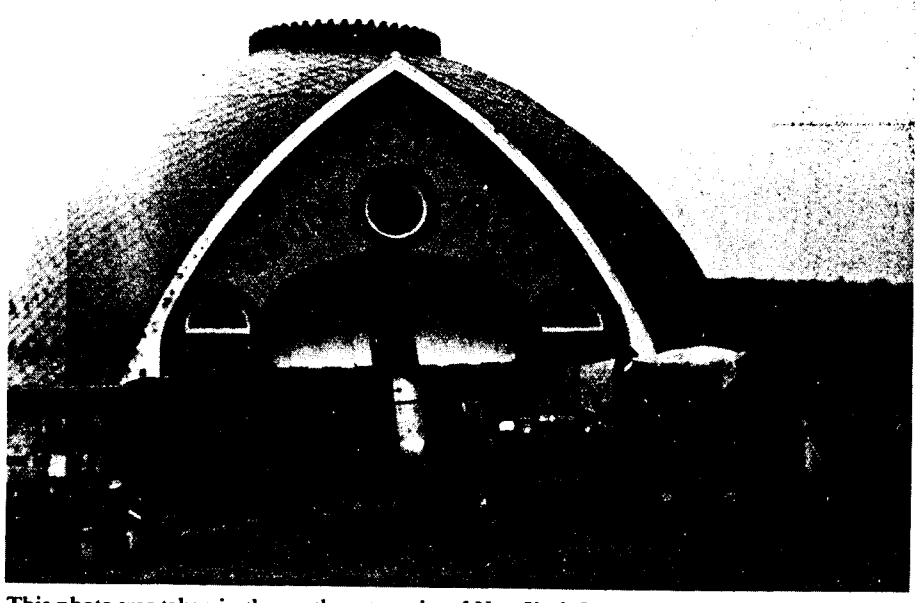
Which leads to another question: Since Upton was in the site's name in all its previous incarnations, why isn't it known today as Upton National Laboratory?

The explanation was found in a pamphlet containing Dr. Norman F. Ramsey's talk on the "Early History of Associated Universities and Brookhaven National Laboratory." Ramsey was a faculty member at Columbia University who was involved in the founding of BNL and who became the first chairman of its Physics Department. Ramsey credited his wife with choosing the name "Brookhaven" from a list of eight titles he suggested. The full story is printed in the accompanying box.

The name Brookhaven National Laboratory, was adopted unanimously by the Trustees at a meeting of the Executive Committee on September 9, 1946.

—Anita Cohen

(See story boxed on page 2.)



This photo was taken in the southwestern tier of New York State, somewhere around Norwich, Eaton and Binghampton.

Reports Available

The following reports are now available to the Laboratory staff and to affiliates of the DOE, AUI, and NRC. Others may purchase the reports from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161. Staff members should call Ext. 3484.

BNL 51243 **$6.00**
Determinacy in Network Models: A Study of Structure and Correlation. J.S. Provan and A.S. Kydes.

BNL-NCS-51245
Vols. I & II **$14.00 each**
Symposium on Neutron Cross-Sections from 10 to 50 MeV. Held at BNL, May 12-14, 1980. M.R. Bhat and S. Pearlstein.

BNL-51259 **$6.00**
Cost/Performance Goals for Solar and Ground-Coupled Heat Pump Systems. J.W. Andrews.

NUREG/CR-1717
BNL-NUREG-51263
Soil-Structure Interaction Methods SLAM Code. C.J. Costantino and M.A. Miller.

BNL-51276 **$11.00**
Advanced Alkaline Water Electrolysis Task 2 Summary Report. Model for Alkaline Water Electrolysis Systems. M.R. Yaffe and J.N. Murray.

NUREG/CR-1738
BNL-NUREG-51280
An Advanced Thermohydraulic Simulation Code for Pool-Type LMFBRs (SSC-P Code). I.K. Madni and E.G. Cazzoli.

BNL-51288 **$5.00**
Regional Issue Identification and Assessment Program (RIIA). Issue Paper 1. Socioeconomic Impacts of Proposed Power Plants in the Northeast. W. Metz.

BNL-51291 **$6.00**
Regional Issue Identification and Assessment Program (RIIA). Issue Paper 4. A Methodology for Analyzing the Water Quality Impacts of Cooling-Tower Blowdown. E. Kaplan.

BNL-51292 **$6.00**
Regional Issue Identification and Assessment Program (RIIA). Issue Paper 5. A Methodology for Analyzing the Short-Term Air Quality Impacts of New Power Plants. F.W. Lipfert.

BNL 51238 **$4.00**
Emissions of CO_2 to the Atmosphere Due to U.S.A. Fossil Fuel Consumption. V.D. Dang and M. Steinberg.

BNL 51270 **$6.00**
The Acceleration of Polarized Protons in Circular Accelerators. E.D. Courant and R.D. Ruth.

The Real Story

Excerpted from Dr. Norman F. Ramsey's talk of March 30, 1966; Brookhaven Lecture Series No. 55.

During the summer of 1946 as secretary of the organization [AUI] I had frequent occasions to write documents referring to the new laboratory. I found that my writing became somewhat cumbersome because of the lack of a suitable name, other than the "new laboratory to be built on the site of Camp Upton." Therefore, I decided I should select a name for the laboratory and wrote down a long list of possible names. In selecting these names I was influenced by our desire to improve relations with our neighbors at the site and I consequently hoped it would help if we adopted some local name. The names I considered, therefore, included Upton Laboratory, Yaphank Laboratory, Long Island Laboratory, Middle Island Laboratory, Atlantic Laboratory, Northeast Laboratory, Suffolk Laboratory, and Brookhaven Laboratory. I then presented the list to my wife and asked her to select the name that she thought would be most attractive when we recruited new staff for the laboratory. She pointed out that Yaphank Laboratory would exclude all veterans of World War I who had been inducted at Yaphank, and Upton Laboratory would do likewise for World War II veterans. She finally chose Brookhaven Laboratory because it was literally correct yet delightfully misleading. The site was in the Town of Brookhaven but the name had a misleading association with quiet, shady streams which might make the laboratory site sound more attractive to potential new recruits than it actually was. Since we still had problems in our relations with the Federal Government it occurred to me as an afterthought to increase the sense of Federal participation by including the word "National" in the laboratory name even though this was not the previous Manhattan District custom. Therefore, I began using the phrase Brookhaven National Laboratory in my reports.

Want to buy the shirts off their backs?

Doug Humphrey

You can't have the shirts off their backs, but you can buy your own starting today, at the BERA film service office in Berkner. Garman Harbottle and Elaine Rowland, Chemistry Department, are wearing shirts that have been silk screened with the figure of a Mayan dancer. The figure is from a 1200 year-old vase that was analyzed in the department in collaboration with the Boston Museum of Fine Arts. It is the logo of the twenty-first International Archaeometry Symposium to be held at the lab in May. Organized by Harbottle and Ed Sayre, with Rowland as coordinator, the symposium will bring together about 250 archaeologists from all over the world to discuss their work in archaeometry, which is the application of modern scientific techniques to the field of archaeology. Sale of the attractive shirts will raise money to help defray travel expenses of students who otherwise would not be able to attend the event. The T-shirts are $6, and come in two color combinations — dark blue image on light blue material and dark sepia on light tan. The sweatshirts are $12, and are white print on dark blue. A range of sizes is available. The film service office is open Monday through Friday, 10 a.m. to 1:30 p.m.

CREF Values

September	$44.60	October	$41.18
November	42.56	December	43.19
January	45.37	February	44.59
March	40.33	April	41.82
May	43.70	June	44.81
July	47.84	August	48.04
September	48.75	October	49.13
November	53.19	December	51.77
January	50.20		

February $51.21

Phone Facts

On Monday, the tan pushbutton phones which have sprouted throughout the Lab over the past weeks will begin working on a limited basis. They have been connected as an important step in achieving a smooth cutover to the new computerized phone system on April 6, and for the next two weeks, March 23 to April 4, special dialing situations may be encountered.

Some phone users may have two working telephones: a conventional Bell phone and a GTE keypad phone. The Bell phone should be used only for off-site calls. The GTE phone should be used for on-site calls — just dial the four digits.

There are some exceptions to this procedure, however. In some locations throughout the Lab, there will be only one phone; it may be Bell or GTE.

What should you do, if a call to another extension does not go through? If it is a Bell phone, dial the other extension as you would an outside call: 9+345+four digits. If it is a GTE phone, dial 9+282+four digits.

The emergency number 2222 will work on either system.

"How To Know You're Growing Older"

It's nice to think that one needs to take a quiz to determine if one's growing older. A reader has sent in a checklist of 25 standards by which you can judge the question.

Some of them:

You turn out the light for economic rather than romantic reasons.

Your knees buckle, but your belt won't.

You regret all those mistakes resisting temptation.

Your back goes out more than you do.

After painting the town red, you have to take a long rest before applying a second coat.

Your pacemaker makes the garage door go up when you watch a pretty girl go by.

The little gray-haired lady you help across the street is your wife.

You have too much room in the house and not enough in the medicine cabinet.

You sink your teeth into a steak and they stay there.

—Reprinted by permission of FORBES Magazine, Feb. 16, 1981, Fact & Comment column.

In Memoriam

Dr. Robert A. Patterson, a gentleman of the old school, died peacefully in his sleep on Sunday, March 8, in Bridgeport, Conn.

His connection with Brookhaven was early and important. He was recruited from RPI by the first Director of the Laboratory, Phil Morse, and started as a Research Executive on November 1, 1946, working at Columbia University. At that time AUI had offices at 393 Seventh Avenue in New York City. Professor George B. Pegram, operating out of 814 Pupin at Columbia, was Chairman of the Committee on Government Aided Research and the U.S. Government was represented by the United States Engineer Office of the Army Service Forces with offices in Madison Square.

Dr. Patterson became Assistant Director for University Liaison and Scientific Personnel on February 1, 1947, a post he held with distinction until his normal retirement in 1955. He stayed on at Brookhaven until the end of 1959 having spent one leave of four months establishing personnel exchange policies for the International Atomic Energy Agency in Vienna.

Dr. Patterson was born on July 12, 1890, spent the years from 1907 to 1915 obtaining his BA, MA, and PhD in Physics from Yale. He held a National Research Fellowship at Harvard, then went to RPI in 1922 becoming Department Head in 1939. He was on leave from RPI to work at the Radiation Laboratory at MIT from 1942 to 1945.

— R.C. Anderson

Pruning Trees

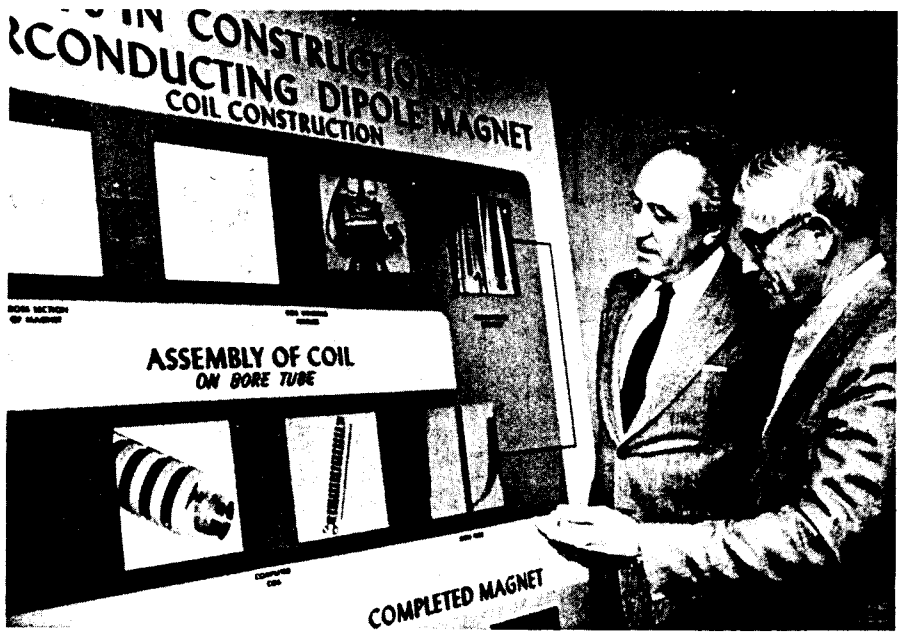
Each spring shade trees should be examined and all dead or diseased branches removed to prevent disease from spreading.

If branches rub against each other, the weaker branch should be removed before both are severely damaged.

To remove branches 1-1/2 inches or larger in diameter, always make three cuts. The purpose of the first cut is to prevent the falling branch from tearing the bark on the trunk. Make it 5 to 6 inches away from the trunk on the under side of the branch. This first cut should be 1/2 to 1 inch deep through 1/4 to 1/3 the diameter of the branch.

Make the second cut one inch or so further out from the first cut. As soon as the branch is removed, make the third cut flush with the trunk.

CERN Visitor



Doug Humphrey

Dr. Jean Gervaise, CERN Survey Group Leader, visited BNL on March 9 and 10, to discuss survey operations and procedures with Sam Baker, (right) ISABELLE Survey Engineer. Gervaise was enroute to CERN after a visit to Seattle, Washington, where he inspected a new two color laser electronic distance measuring device needed for the proposed LAP surveys.

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CARL R. THIEN, Public Relations Officer

BERA Election Next Week

Voting to elect two candidates to serve on the BERA Board, replacing outgoing trustees Carol Beckner and Gail Williams, will take place during the week of March 23. Eligible voters include employees of BNL, AUI, DOE, and permanent on-site employers (Saga Food Service, Barclays Bank, etc.)

Ballots may be cast during the following times at the designated voting stations:

Monday	3/23	11:30 - 1:00	Cafeteria
Tuesday	3/24	11:30 - 1:00	Gymnasium
Wednesday	3/25	11:30 - 1:00	Cafeteria
Thursday	3/26	11:30 - 1:00	Cafeteria
Friday	3/27	9:00 - 3:00	Bank

Absentee votes, for employees who will not be on site during voting week because of business trips or other reasons, will be accepted by sending a signed memo with candidate selections to the Recreation Office, Building 185. Memos must be received no later than 5:00 p.m., Thursday, March 26.

Arrivals & Departures

Arrivals

David R. McCarthy ..... Biology
Sankar K. Saha ..... Chemistry

Departures

Robert P. Keefe ..... Biology

Atlantic City Trip

The Mountain Club will sponsor a trip to Atlantic City on Sunday, April 12. The bus will leave from Berkner Hall at 8:30 a.m. and return at 10 p.m. The fare is $12 and a minimum of 40 people is needed. You can bring food and drink with you for the ride down and back. If interested, call Don David, Ext. 4821 or 286-2267 within the next three days.

Last Picture Show

Today at 12 noon and 12:45 p.m. in Berkner Hall, you can see a DOE film on the building of the Brookhaven House. Located on site at Upton Road, the house demonstrates how thermal mass materials can be used to cut heating costs. A brief question and answer period will follow each showing.

Cooking Exchange

Join us for some Middle Eastern cookery on Wednesday, March 25, at 12:30 p.m. in the Recreation Building. Sample felafel, tahini sauce, chicken stuffed with fruit and bulgar, plus other intriguing delights.

Meetings of the Cooking Exchange are open to all Lab employees and their families. Admission is $1.00 and babysitting is 50¢ per child.

For information call Robin Metz at 821-1039, or Ruth Fernow at 928-8465.

NYC Train Trip

The Hospitality Committee is planning a group railroad trip to the city on Wednesday, April 1. Departure will be at 7:55 a.m. from the Patchogue LIRR station. Round-trip fare for adults is $3.25, children under six years ride free.

Reserve a ticket by sending your fare through the U.S. mail to P.O. Box 322, Upton, New York 11973, no later than *Thursday*, March 26. Make checks payable to "Brookhaven National Laboratory." Your tickets will be given to you on the train. Refunds will be made only if cancellations are received by the Friday preceding the scheduled trip.

Cafeteria Menu

Week Ending March 27, 1981

Monday, March 23

Cream of tomato soup	(cup)	.55
	(bowl)	.65
Salisbury steak & 1 veg.		1.60
Cheese omelette & sausage		1.55
Hot Deli - Roasted turkey breast	(on bread)	1.65
	(on roll)	1.75

Tuesday, March 24

Philadelphia pepper pot soup	(cup)	.55
	(bowl)	.65
Barbequed ribs & baked beans		1.65
Fish fry special		1.87 plus tax
Hot Deli - Roast beef	(on bread)	1.65
	(on roll)	1.75

Wednesday, March 25

Beef noodle soup	(cup)	.55
	(bowl)	.65
Irish stew w/noodles		1.60
Roasted pork loin & 1 veg.		1.65
Hot Deli - Grilled Reuben		1.60

Thursday, March 26

Pork & cabbage soup	(cup)	.55
	(bowl)	.65
Roasted chicken w/stuffing		1.55
Beef chop suey & rice		1.60
Hot Deli - Italian meatball hero		1.70

Friday, March 27

Manhattan clam chowder	(cup)	.60
	(bowl)	.70
Shells w/white clam sauce & garlic bread		1.50
Breaded pork chop w/apple sauce & 1 veg.		1.65
Hot Deli - Fried filet hero		1.65

Degree Days

March

9	10	11	12	13	14	15
25.0	27.0	28.5	32.5	19.0	30.7	25.7

Softball

The tentative starting date of softball league play for the 1981 season is May 11. The first captains' meeting will be held on Wednesday, March 25, at noon in the Snyder Seminar Room of the AGS, Building 911, first floor. Roster forms will be available at that time. **All teams** wishing to participate should have a representative at this meeting.

Any new teams wishing to join the BNL softball program are urged to call the president, Charles Bohnenblusch, Ext. 4758 for information. Any unattached player needing assistance in finding a team should contact the vice-president Larry Musso, Ext. 7924.

Volleyball

Results for 3/16/81

A Division

The No Names kept their lead with very tight games over High Society, 16-14, 16-14, and 15-12. The Mixed Ups over a very determined Kings Court, 15-5, 15-7, and 15-8. Las Bolas triumphed over Nuts & Bolts, 15-5, 15-10, and 15-9.

B Division

TNT showed a touch of flair over the Lemufs team with scores of 15-13, 15-7, and 9-15. The Leftovers seem to be getting in their digs before the playoffs against Puff & Stuff with scores of 6-15, 15-2, and 15-4. The Oh No's baffled Semi Tough with scores of 10-15, 15-5, and 15-2.

Open League Tournament

Results for March 11, 1981

First place, the Spikers; 7 wins, 0 losses, total 14 pts. Second place, the Moles; 6 wins, 1 loss, total 12 pts. Third place, Der Schpikensetzenbumpenblockenspielers; 5 wins, 2 losses, total 10 pts. Fourth place, the Raiders; 3 wins, 3 losses, 1 tie, total 7 pts. Fifth place, Toga; 3 wins, 3 losses, 1 tie, total 7 pts. Sixth place, Monday Terrors; 2 wins, 5 losses, total 4 pts. Seventh place, the Brewmasters; 1 win, 6 losses, total 2 pts. Eighth place, OTHG, forfeited all games, 0 pts.

Golf

With the arrival of spring it is once again time to get your clubs out of the closet and begin preparing for the 1981 BGA golf season. To get things started, there will be an organizational meeting of the golf league on Friday, April 3, at 5 p.m. in the Recreation Hall. Membership applications and questionnaires are being mailed out to last year's members. Prospective members may obtain an application by calling Ron Webster, Ext. 2845. The deadline for submitting an application will be Tuesday, March 31. Membership in the league is open to all employees, their spouses, and retired employees.

Bowling

Pink League

Helen Keeley had high series with a 491 and Deb Johnson had high game of 191. Other good games were bowled by Ellie Kristiansen 167, Renie Rosati 167, Mary-Grace Meier 165, Karen Alberico 165,, Maryann Larsen 163, Ann Parrinello 157.

Red League

Isa Team won 8-3 over the 76'ers with R. Barberich grossing 647, J. Petro 616 and J. Sauls 604. J. Morris rolled a 211 and E. Sperry IV (201) grossed 618. The Old Timers won 7-4 in a match with the Designers. R. Adams (224) had a 595/649 series, A. Pinelli (213) 622 gross. The Strangers took 8 from the Freon Loaders. W. Vanzwienen grossed 610 and N. Baker 609. The Sandbaggers split 6-5 with the Phoubars. A. Dick grossed 642 and R. Jones 601.

Purple & White League

Walt Milian had high series with a 615 with games of 236/199/180. Kay Conkling had a 591 series with games of 197/203/191. Walt Milian also converted the 7/9/10. Other good games were bowled by Bob Jones 216, John Walker 225, Jim Petro 213/200, Ben Belligan 213, Lynn Boyd 204, Millie Connelly 198, Mary Scheidet 186, Marge Belligan 187, Pat Manzella 185.

Green League

The Light Source lost 11 to the Old Timers II. J. Fortunato bowled a 200 and G. Fales 223 for a 591 series. The Blue Jays took 8 in a match with the Pinball Wizards. The Trouble Shooters split with the Sparks 5-6 and the Phoubars also split 5-6 with the Sandbaggers.

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L.I. Industrial Tournament

Good games were bowled by Rich Larsen with a 223, Ken Riker 211, Jim Morris 208, Ed Meier 204.

Theater Group Stages Comedies

The BERA Theater Group will present "GOD" by Woody Allen, and "Feiffer's People" by Jules Feiffer, two one-act comedies, on March 27, 28 and April 3, and 4 at 8:30 p.m. in Berkner Hall. In this scene from "GOD," Jane Love, Bill Love, Thomas Love, Bob Cordero, and Jim Sands react to the sudden death of God, (Roger Podd). Or is he really dead? Come find out if Zeus will fly again. Tickets are $3.00 for adults and $2.00 for senior citizens and students under 18. For further information call Liz Russell, Ext. 3940.

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, with preference to those within the immediate work group; (2) present employees within the Laboratory as a whole; and (3) outside applicants.

The determination of the best-qualified candidate for available positions will be based upon education, experience and other job-related criteria. Such factors will be evaluated and measured against the demonstrable requirements of the available vacancy, as well as the Laboratory's Affirmative Action objectives.

The Laboratory is committed to a policy of Equal Opportunity in its selection and placement of personnel. Its objective is equality of opportunity in employment, training, and promotion without regard to race, color, religion, national origin, sex or handicap.

Each week, the Personnel Office lists new personnel placement requisitions. The purpose of these listing 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, as indicated below. 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 Personnel Placement Supervisor, Ext. 2882.

LABORATORY RECRUITMENT: Opportunities for present Laboratory employees.

1580. ENGINEERING POSITION - Requires a bachelor's degree in engineering or equivalent experience in designing, estimating, and implementing of energy conservation projects. Working knowledge of HVAC systems is essential. Responsibilities will include collaborating with BNL and Federal DOE personnel in reducing energy consumption levels of mechanical/electrical systems on site. (Re-posting of Job No. 1565). Plant Engineering Division.

Autos & Auto Supplies

66 CHEVELLE - 2 dr, small V8, p/s, runs well, good cond. Asking $375. June, Ext. 3431.

76 FORD GRANADA - 2 dr, ½ vinyl top, 30,000 mi. $2,500. Ext. 3725.

FIRESTONE TIRE - GR-70-15 fair, 66 Oldsmobile am radio, hub caps, windshield wiper motor. Ron, 281-3149.

68 KARMEN GIA - Eng. very good body, needs work. $600. Firm; 1972 Chevy Wagon, 8 cyl, good cond. $600. Firm. 744-2552.

TIRES - (2) G78-14, (2) G78-14 snows, $20/pr; 1979 Ford pickup F250, 4 wheel locked hubs, Dunlop radial tires, excel cond. $6,500. Ext. 4034 or 265-3898.

72 DODGE - Colt transmission, Dodge colt wheels, hood, doors, windshield; 1970 Buick Sedan -every option, excel cond, Asking $550; 1967 Ford F250 w/10½ ft. camper, like new. Asking $3,800. Must be seen. Call Tony, 732-3338.

74 VW - "412", 59,000 orig. mi, am/fm stereo cassette, a/t, runs well. Leroy James, Ext. 4582/4581 or 286-1615.

68 MUSTANG - conv., a/t, 289 ci, $500; 1969 Ford Van, 6 cyl, man. needs battery. $500. Ext. 4278.

77 PONTIAC - Grand Safari wgn, V8, a/t, p/s, a/c, reasonable mileage, very good cond. $4,200. Available 3/26. 744-5375.

66 FORD - Pickup, 69-390 engine, long bed, new clutch, good cond. Ext. 3084.

79 CHEYENE BLAZER - a/t, 4 WD, loaded w/extras, 3,000 mi. $8,900. 472-1663.

TIRES - (3) G78-15 steel belted radials, fair cond. $10. ea. Rich, Ext. 3573.

80 OLDS - Cutlass diesel, 4 dr fully equipped, like new. $6,900. 286-0271 eves.

74 CHEVY - overhaul manual, $5. Walter Ducoing, Ext. 4279.

63 COMET - sta. wgn, parts, 744-9423 after 6 p.m.

77 HONDA - CVCC wgn, 4 spd, reg. gas. $2,950. Bob, Ext. 4434.

750 HONDA - molded stock frame, chromed oil tank, dog bones, touring saddle, etc. Slawko, Ext. 4460 or 929-3347.

68 VOLVO - 144S, orig. owner, a/c, manual trans, good cond, 83,000 mi. $1,000. 286-1444.

68 FAIRLANE - 500SW, 289 V8, p/s, p/b, rr, new tires, good cond. $500. 744-6423.

WHEELS - 15" Olds Toronado front wheel, type heavy duty, good cond. $15. for pr. Bob, Ext. 2819 or 289-0357.

80 SUNBIRD - 4 cyl, a/t, 22,200 mi, vinyl top, am/fm radio, rust proofing. $4,300. Lou Licalzi, Ext. 3354.

76 FORD VAN - E250, windows, 6 cyl. a/t, p/s, p/b. new trans., extras. 744-1429.

71 DODGE - Charger S.E. p/s, p/b, excel running, new paint. $1400. 727-0216 eves.

70 MONTE CARLO - p/s, p/b, excel running, clean int., ext. $850. 727-6632 eves.

78 YAMAHA - 400SX, 10,000 mi, just tuned. $1,000. George, Ext. 7672 or 878-4383.

73 CHARGER - S.E. yellow, black vinyl, p/b, a/c, p/s, new trans, 318 engine, body good cond. $1,000. best offer. 924-0960.

75 VW RABBIT - very good cond, am/fm, 35 MPG reg. gas. $2,000. Donna, Ext. 2303 or 929-4237 after 6 p.m.

79 CHEVY - Pickup, excel, 4WD, H.D. susp., power angle plow, stereo, extras. $8,000. Marcie, Ext. 2914.

75 CADILLAC - Sedan Deville, full power, radials, am/fm power ant, nice luxurious car. Asking $2,000. Ext. 7317 or 654-1180.

76 HONDA - XL350, Enduro, new clutch, brakes, battery, never in dirt, excel. John, 744-7406 eves.

73 VW BEETLE - red, good cond, 4 spd, asking $1,750. 924-3855 after 5 p.m.

66 BUICK - Skylark convertible. Ext. 3284 or 924-3522.

650 HOLLEY - CFM double pumper, $25; rims (4) 16.5" Ford H.D. truck. $5. ea. Ext. 7291.

65 WAGONEER - 6 cyl, 4 dr. $500. Ext. 2384.

73 OLDS - Cutlass, V8, p/s, p/b, a/c, am/fm cassette, clean, excel cond, 55,000 mi. Must sell. Ext. 3248 after 5.

MOTORCYCLE - Honda Twinstar 1980, brand new, luggage rack, sissy bar, many extras. Ext. 2482.

DYMO BARS - for 1980 Suzuki, protect your engine, all chrome. Make fair offer. 277-1284.

73 JEEP - CJ5, 6 cyl, 3 spd, new top, paint, tires, good MPG, excel. Asking $3,500. 878-8151.

73 CHEVY CAPRICE - wgn, excel cond, a/c, a/t, am/fm, high mileage. Ext. 3326 or 286-0497 eves.

Boats & Marine Supplies

17' GARVEY SKIFF - navy top, good cond. 325-0447 after 6 p.m.

16' FIBERGLASS - Cuest Craft, 75 HP, trailer, 2 gas tanks. $1,500. Tri-Hull. 744-2552.

1980 JOHNSON - outboard 25 HP, long shaft, 10 hrs. manual start. 286-8991 after 5.

14' FIBERGLASS BOAT - 35 HP merc. controls & trailer. $550. 929-4064 after 6 p.m.

318 CU. CHRYSLER MARINE ENGINE - fresh water cooled, heat exchanger included, runs very well. $500. Don M. Ext. 2022 or 878-2215 after 6 p.m.

AMF/ALCORT SAILBOAT - 12½ ft. main and jib, used one season. $1,300. Ext. 4908 or 744-4724 after 5.

1975 24' SEA RAY - equipped new engine. $9,600. Firm. 286-0059 after 6 p.m.

Miscellaneous

BIKE - girl's 20" pink, excel cond. $30. 289-0753.

LIVING ROOM - sold separately or as a unit: 3 tables, 3 chairs, 3 table lamps, 7 ft. sofa, 2 commodes, mint cond. Best offer. Ext. 2065 or 981-1327.

BICYCLE - girl's Ross 20", 2 yrs. old, suitable 8-10 yr. old, good cond. $35. Ext. 4676.

TODDLER'S CARRIER SEAT - for bicycle (Sears), $10; training wheels for bicycle, $3; big wheel, like new. $15. Bill, Ext. 3369 or 929-6442 after 6 p.m.

TUNER - am/fm mono, $15. Pete, Ext. 4782 or 289-7218.

DOUBLE BED - complete, $90; kitchenette w/2 chairs, $45; exercycle, $40; Ford's child car seat, $15. 331-9349.

BARBEQUE GRILL - charcoal, 22", Kettle type, Sears, w/cover, new cond. $50. 281-2767 eves.

BICYCLE - Ross 24" 10 spd, very good cond. $75. 744-5375.

COLONIAL SOFA - maple wood frame w/cushions, very good cond. $75. Ext. 3995.

ROUTER - Sears 1 HP, good cond. $40. orig. $85. Paul, Ext. 4665 or 727-4859.

RUG — cow hide, black & white, approx. 6'x7'. $75. Firm. 281-0585.

BIKE - 26", 3 spd, $25; TCR Jamcar set, $20; Big Bertha rocket w/launch kit, $10; pogostick, $5; Logix 0600 computer kit, $10; misc. games. 345-3177 Fri. after 3 p.m.

ADDING MACHINE - SCM-800, excel, $35; kitchen range, porcelain, wood/coal/gas, electric knife. 325-1961.

FIREPLACE ITEMS - glass doors, $25; brass screen (36"x27" opening), $10; air cond, old but works, $35; push-type lawnmower, $15. John, Ext. 3292.

GE - 3/4 HP base mounted motor, 115/230V, 3/4" shaft, $7; Briggs Stratton 3½ HP 4 cycle vert. shaft engine, $7; Axe plumb 3½ lb. single blade, good cond. $15. Fred, Ext. 4988.

ANTIQUE - platform rocker, excel cond. A steal at $125. 728-2223.

ZENITH - B&W TV, 19" screen, channel 4 needs adjusting, $55. Ron, 281-3149 after 5:30.

SKIS - Rossingol, 170cm w/Solomon 444 bindings, $35. Ext. 7667 or 751-7692.

LOVE BIRDS - one pair Brazilian (miniature parrots) $75. 265-1072.

FREE - pussy willow; 3 stack table, $15; house plants, all prices. C. Hull, 281-2002.

HOME MADE - Easter chocolates, call Gene for price list at Ext. 4033.

WELLINGTON - coal stove, black, used 5½ months, will demonstrate. Asking $700. Ext. 7500 or 473-1067.

BICYCLE - 21" motorbecane, vitus D/B frame, excel components, in brand new cond. Ext. 2495.

BABY CRIB - w/mattress, very good cond, $50; baby dish, $6; carrier, $10. Ext. 3469 or 281-4371.

VACUUM - Hoover upright, only $10. Yes, it works OK. Ext. 4945.

REFRIG - 17', usable. $45. 363-7032.

KART CONVERSION - hardly used, purchased in 1980. Ext. 2496.

MEAT SLICER - all metal, seldom used. $18. Ext. 3486.

WETSUIT TUNIC - "Spring suit", medium, $40; 8 lb. weight belt, $10. Greg, Ext. 7960.

GRIND STONE - sit on type, antique 50 yrs. old, $50; ladies bike, old, $15. 732-3338.

STEREO SYSTEM - w/turntable, $600; German Orchestra violin w/bow & case, $450. Hersh, Ext. 2841.

DOG PEN - 6 ft. high; chain link 15 ft. wide x 15 ft. long, $275. orig. cost $600. 929-4064 after 6 p.m.

TICKETS - (2) Aeolian Chamber Players, eve. April 25, Sayville Jr. H.S. $5 ea. excel location. Ext. 2914 or 286-3742 eves/wkends.

TICKETS - (2) City Opera "Cunning Little Vixen", $12. tickets front row, fourth ring. Ext. 4373.

REASONABLE WINE - Demi-Johns & crocks; encyc. Brittanica; modern sofa & chair; end tables; driftwood lamps. 669-9234 after 6 p.m.

SUN LAMP - Sears Model 7098-1, 275 watt, like new, $20. Tom, Ext. 4084 or 878-1060.

HOUSE CONTENTS - 4 piece living rm, end tables, coffee table, desk, gun cabinet. 981-4257 between 9 a.m. - 2 p.m.

REFRIG/FREEZER - green, 17.6 cu. ft. automatic defrost, like new, excel cond, side-by-side doors, sacrifice. $50. 286-9510.

SOFA - sleeps 6 footer easily, ideal for den or playroom, $15. Tony, Ext. 3293 noons or after 5 p.m.

STEREO - phono system Lafayette, $50; am/fm L.E.D. Digital clock radio XAM, $15. 345-3177.

EASTER CHOCOLATES - decorated and plain. Joe, Ext. 7636 or 924-6971.

ROCK CLIMBERS - Summit Magazine, July 63 -June 72. Dennis, Ext. 4259 or 736-2534 after 6 p.m.

POOL TABLE - 7 ft. Cue Master, 1" slate, access. incl. $300. Phil, 689-9402.

BOY'S NAVY BLAZER - size 12, worn twice, orig. $30. Now, $10. 751-2713.

COAL STOVE — Surdiac, 55,000 BTU, used one season, excel cond. $900. 289-8479 eves.

TV - Motorola color, 19" w/built in TV games, $250. Bob, Ext. 7684.

JACKET - green corduroy, men's size 48-50, good cond, $5. 286-1192 after 6 p.m.

BIKE - girl's Schwinn, 3 spd, like new. $75. John, Ext. 4312.

MAGNAVOX - Odyssey 2 TV game, complete w/49 character computer keyboard & two 8-position hand controls, 12 programs including 16 different games. $300. Kevin, 475-4394.

EASTER'S COMING - boy's 3 piece polyester suit, beige, size 8, coord. shirt, excel cond. Carol, Ext. 3325.

DINING CHAIRS - leather w/teakwood frame, new. Orig. $100. ea. Four for $320. Ext. 2072 or 929-8411.

Real Estate

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

For Sale

WESTHAMPTON AREA - mobile home, 12'x60', 2 bdrms, eik, stove, refrig, washer/dryer, laundry rm, wooded landscaped plot. $10,500. 698-2501.

CENTER MORICHES - 2 bdrm ranch, fenced yard, encl. patio, fam. rm, fully paneled and carpeted. 878-2998.

FARMINGVILLE AREA - corner lot, 165x60 fruit trees and city water; also SELDEN AREA 100x175 lot, city water. Asking $10,000 ea. Tony, 732-3338.

DELAWARE - 1+ acre, high & dry, good road about 5 miles west of Smyrna. $10,000. 325-1961.

MEDFORD - 1.2 acres, 2-3 bdrms, eik, d/r, 2 bathrms, playrm, 2 car garage, central a/c, patio, inground sprinkler system, owner will hold mortg. at lower than current rates. Asking $52,500. 286-1709.

PT. JEFFERSON STATION NORTH - non-development ranch, 100x100 lot, full bsmt, garage, new roof, walk to all shopping, R.R., theater, minutes to Harbor, beach. $38,900. 473-0178 eves.

CENTER MORICHES - south of 27A, 100 yr. old Victorian, 4 bdrms. $55,000. George, Ext. 7672 or 878-4383.

MASTIC - large 3 bdrm ranch, 2 fireplaces, laundry rm, den, patio, 10 minutes from Lab. $35,000. George, Ext. 7672 or 878-4383.

NORTH SHIRLEY - custom built colonial on 100'x217' land, 9 rms plus many extras. $12,000 Cash Over, no additional fees. Just move in. 924-0960.

For Rent

BROOKHAVEN HAMLET - 3 bdrm ranch, garage, near Bay, 10 miles to Lab. $350/mo. plus security. Ext. 3381 or AT6-1024.

MEDFORD - new 4 rm. apt., priv. entr, w/w, util incl, convenient location. $375/mo. Firm. Avail. May 1st. 289-0005.

STONY BROOK - 2 bdrm apt. $395/mo. plus util. 751-1687 eves.

SHIRLEY - 3 large rms apt. w/full bath, priv. entr, $375/mo. incl. heating & util. Available April 1st. 281-2561 eves.

RIDGE - 3 bdrm ranch on approx. 1/2 acre, fenced yard, w/w carpeting, full bsmt, appliances, a/c, Don M., Ext. 2022 or 878-2215 after 6 p.m.

Wanted

CAR SEAT - GM Toddler. Call Artie, Ext. 4278 or 325-0743.

SAILING DINGHY - under 100 lbs. Pete, Ext. 4782 or 289-7218.

CAMPING EQUIPMENT - tent, sleeping bags, air mattresses, etc. Ext. 3106.

MOTORCYCLES - bent or broken, any age or cond. Kevin, 281-8031.

CEMENT BLOCKS - approx. 40, reasonable; also bluestone chips for driveway. John, Ext. 3292.

DINETTE SET - good cond, reasonable. 325-1961.

TAIL LIGHT ASSEMBLY - for 1973 Plymouth Satellite (Sebring) 744-9423 after 6 or Ext. 7292.

GE REFRIG - 17 or 14 cu. ft. white, in good cond. Louisa, Ext. 4207 or 286-2251.

APARTMENT - furnished, Middle Island area, util. incl. Reasonable & clean. Sheldon, Ext. 3354 or 744-3234.

BABYSITTER - for 2 yr. old and infant, wkdays from 8 to 5, Shirley area. Mary, 399-6128.

BIOPHYSICAL CHEMISTRY - Cantor and Schimmel, to look at and evaluate for purchase, F. Bernstein, Ext. 4382 or 286-1339.

TUTOR - 8th grade reading and Math skills, references. 281-2289 after 5 p.m.

WHEEL CHAIR - in good cond, must be reasonable. Dot, 286-0247 or 286-3249 leave message.

HOME - roommate moved, need home. Susan, refined, affectionate, feline, 4 yrs., white/calico, w/appropriate surgery, excel mouser, references please. Tony, Ext. 3293 noon or after 5.

SKI POLE - one half of pair, basket not necessary. Dennis, Ext. 4259 or 736-2534 eves.

HOUSE - Bellport Village, South of So. County Rd., 3 bdrms, purchase. Ext. 7637 or 286-4639 eves.

HOUSE/APT. - wanted to rent. Rocky Pt./Sound Beach area, near beach. 4/81 - 8/82. $350-$450. Family of 4. 924-6737.

TRAINS - Lioinel, any "O" gauge or "027" gauge cars, track, and equip. Frank, Ext. 3120.

BABYSITTER - wanted my home, 8 to 6 p.m. wkdays. $40 per wk. Mastic. 399-5754 after 5 p.m.

FENDER - right front, to fit 1968 VW Squareback. 286-9158.

POWER LAWN MOWER - cheap but working, Don, Ext. 3493.

Car Pools

PLAINVIEW - 1 driver to join existing car pool. 8 to 4:30 p.m. Harry, Ext. 4917.

MATTITUCK - car/driver to join 4/5 person car pool. Bill Stars, Ext. 4278 or 298-9648 eves.

QUEENS/NASSAU - want one person to join existing car pool. We meet at the Alley Pond Parking Field. Ext. 3042.

MASSAPEQUA/SOUTH FARMINGDALE - vicinity. Plotkin, Ext. 4717.

Services

Services are listed as a courtesy to BNL employees. They are neither screened nor recommended by the Bulletin.

KITCHEN CABINETS - bathrooms, cement work, home improvements, dormers, basements, etc. Free estimates. 582-9489 after 6 p.m.

PROFESSIONAL TYPING - 727-5475.

TAXES - prepared by Tax Consultant your home or mine, reasonable. John, 732-2472.

TILE WORK - cement, terrazzo, tile, reasonable rates. Don, 281-8848 or John, Ext. 3292.

BABYSITTING - will babysit at my home, any age. 928-6930.

CARPETS INSTALLED - quick dependable service, free estimates. Jim, 821-0187 after 5 p.m.

ROTOTILLING - new or existing gardens, lawns, $18/1000 sq. ft. Dave, 7517 or 288-3011 eves.

1980 TAX RETURNS - by experienced tax accountant, low fees, eves and wkends. Bob, 475-3981.

FLOOR WAXING - reasonable, Patchogue to Center Moriches. 289-1568.

CANVAS WORK - all types, excel workmanship, reasonable. Ken, 475-8006.

ROTOTILLING - have your garden tilled with a professional model Troy-Bilt tiller, special group rate. Tony, 281-0350.

CLEANING - home, apt., office. Call early for spring clean-up. Free estimates. 751-2350.

ROTOTILLING - $15/hr. Free garden consultation, planning and PH test. Bob, Ext. 2957 or 878-4556.

SIGHT SEEING FLIGHTS - aerial photogr. Long Island, Conn., New York,, Modern all weather aircraft. Ron, Ext. 2491.

TUTORING - certified elementary education teacher, reasonable rate. Ext. 2072 or 929-8411 after 6 p.m.

Classified Ad Policy

Deadline is 4:30 p.m. Friday for publication Friday of the following week.

1. The Brookhaven Bulletin's classified section may be used only by active and retired Laboratory employees.
2. All items for sale or rent must be the advertiser's property.
3. Ads for material acquired for resale in association with a full or part-time business cannot be accepted.
4. Ads for the sale or trade of firearms will not be accepted.
5. Ads not carried because of space restrictions will be held for publication in the next issue.
6. Ads are run only once and must be resubmitted if they are to be repeated. One ad per person per week.
7. **Property for sale or rent cannot be accepted on this form. Special Real Estate Ad Forms are available at the office of the Brookhaven Bulletin, Building 134.**

☐ For Sale: Autos & Auto Supplies ☐ For Sale: Boats & Marine Supplies ☐ For Sale: Miscellaneous ☐ Car Pools ☐ Lost & Found ☐ Services ☐ Wanted

Please print your ad below in 15 words or less using one word per block. Include name and phone number to call.

Note: The following must be completed for your ad to appear.

NAME (Please Print) .....

Employee's Signature ..... Life No. ..... Ext. .....

Send to: Brookhaven Bulletin, Building 134 (Ext. 2345).

Classified Ad Policy Deadline is 4:30 p.m. Friday for publication Friday of the next week.