BROOKHAVEN BULLETIN
Vol. 39 - No. 23 June 7, 1985
BROOKHAVEN NATIONAL LABORATORY

RHIC Rap

Second Magnet Passes Tests

The second demonstration magnet for BNL's proposed Relativistic Heavy Ion Collider (RHIC) was tested this week. Not only did it live up to all its design specfications, but it also proved to be a nice example of international collaboration.

Like its predecessor "Quick RHIC," which was tested last December, this 4.5-meter-long, curved, superconducting magnet contained single-layer coils wound at Fermilab, in Batavia, Illinois, on their existing tooling. But while the coils for "Quick RHIC" came to BNL for assembly, the coils for the second magnet were shipped to DESY, a high energy physics laboratory in Hamburg, West Germany.

In the process of building an electron-proton collider called HERA, which has magnets similar in size to the RHIC prototypes, DESY has become expert in the art of fitting thick aluminum collars snugly around coils to inhibit their movement. After being "collared" at DESY, the coil assembly was sent south to Mannheim, to a facility of the Brown-Boveri Corporation (BBC). BBC enclosed the collared coils in the same iron laminations they have designed and used on magnets for HERA. Then the completed magnet was returned to BNL for testing.

Testing, conducted by the Magnet Division of the Accelerator Development Branch (ADB) of High Energy Facilities, began on Monday, June 3. The magnet easily reached its design specifications, which include a magnetic field of approximately 3.5 teslas at a temperature of 4.5 kelvins.

BBC has three more sets of coils to assemble. One will be a twin to the one just tested; the other two will have iron collars. After all have been tested, a decision will be made on what type of collar to include on RHIC magnets. According to ADB Physicist Per Dahl, "No matter what the outcome, the final design owes a great deal to the cooperation we've had from Fermilab, DESY and the BBC."

Roger Stoutenburgh

Paul Piciulo (left) and Ramesh Dayal use computerized counting equipment for measuring the concentration of radionuclides in a sample of low-level waste leachate.

BNL Lecture

Hungry Granulocytes

Granulocytes are white blood cells containing granules in their cytoplasm that are important to the body's defense. In the 215th Brookhaven Lecture, Senior Scientist Eugene Cronkite, Medical Department, will speak on "Regulation of Production of the Hungry Granulocyte — Friend and Foe," at 4:30 p.m. on Wednesday, June 12, in Berkner Hall. He will discuss the discoveries involving granulocytes since the 1880's and the role of granulocytes in fighting infection and abetting some disease processes, such as gout and emphysema.

Many granulocytes can engulf invading bacteria, and the granules contain enzymes that are released from the cell to combat bacterial infection. Granulocytes have a 12 hour life span and 10^{10} per day are normally produced in the bone marrow. The production is increased upon inflammation or infection.

To combat bacteria, granulocytes rush out of the blood stream and enter the connective tissue. The drop in the concentration of granulocytes in the blood is chemically sensed, and the granulocytes stored in the marrow are mobilized. The marrow is told to increase its granulocyte production.

Each of these steps is regulated by molecular inhibitors and stimulators. "Our objective is to find the unidentified molecular regulators that control the production of the known granulocyte inhibitors and stimulators," explains Cronkite. "We have evidence that cells in the bone marrow that surround the precursors to granulocytes may have a role in granulocyte production and may receive their signal from a peripheral molecule."

Cronkite's interest in granulocytes began as a medical student at Stanford University and developed while he served as a physician in the Medical Corps of the United States Navy during World War II. He explains, "In the days before sulfa drugs were discovered, the granulocyte production in some patients with pneumonia and other illnesses would fail, and without

Mort Rosen

Eugene Cronkite

granulocytes, they would succumb to bacterial infections. I wanted to learn more about granulocyte production and its regulation."

After the war, Cronkite served as head of the hematology division of the Naval Medical Research Institute and project officer investigating the biological effects of nuclear weapons at the Nevada and Pacific proving grounds. Before he resigned from the Navy as Medical Corps commander, he directed the study and care of Marshall Islanders accidentally exposed to fallout radiation. In 1974, Cronkite retired from the Naval Reserve Medical Corps as a rear admiral.

Cronkite came to the BNL Medical Department in 1955 as head of the division of Experimental Pathology and chaired the Medical Department from 1967 to 1979. Since 1968, he has served as a dean and professor of Medicine, SUNY at Stony Brook.

All those interested in getting together after the lecture are invited to go with the lecturer to a restaurant off site. If you want to be part of this group, call George Rabinowitz, Ext. 7637.

Low-Level Waste Disposal Studied at BNL

The U.S. generates almost three million cubic feet of low-level radioactive waste each year. How much is that? Picture a mound the area of a football field, 60 feet high.

Of course, the waste isn't disposed of in landfills, the way garbage is. It's buried in commercially-operated sites, in trenches that are typically 300 feet long, 25 feet wide and 25 feet deep. This country has been disposing its low-level waste in commercial shallow land burial sites for some time. In the 1960's, commercial burial sites were opened at Beatty, Nevada; Maxey Flats, Kentucky; West Valley, New York; Richland, Washington; and Sheffield, Illinois. A site at Barnwell, South Carolina, began operating in 1971.

But out of those original six sites, only three are open today. And that is one reason the Nuclear Waste Management Division in the Department of Nuclear Energy has been involved in studying low-level waste.

According to Paul Piciulo, who leads a group that provides technical assistance for the Nuclear Regulatory Commission (NRC) in areas related to low-level waste management, in the early years, the standard procedure for low-level waste disposal was to package it in drums and place it in a trench. Then in the mid-70's, Maxey Flats, West Valley and Sheffield were found to have problems, some of which contributed to a small amount of radionuclide migration. Those three sites were closed.

Since that time, the NRC has supported field and laboratory programs evaluating past and present performance of commercially operated low-level waste disposal sites, and the Nuclear Waste Management Division has been involved in a number of these programs. Says Ramesh Dayal, who leads the division's low-level waste research group, "Our studies of existing disposal sites have provided not only an opportunity to investigate the behavior and fate of radionuclides in a natural setting, but also to assess the suitability of similar sites for future disposal of low-level radioactive wastes."

"In the early days," he explains, "much of the waste was packaged in such a way that it was readily biodegradable and leachable, resulting in radionuclide release." He says that led to the formation of large void spaces in a trench, resulting in the collapse of the trench cap, the three to ten-foot layer of compacted soil covering a trench. This settling allowed water infiltration and accumulation, which in turn encouraged more leaching of waste materials and, finally, migration of radionuclides. Radionuclide migration was even enhanced when the waste contained chelating agents, which are used in decontamination work.

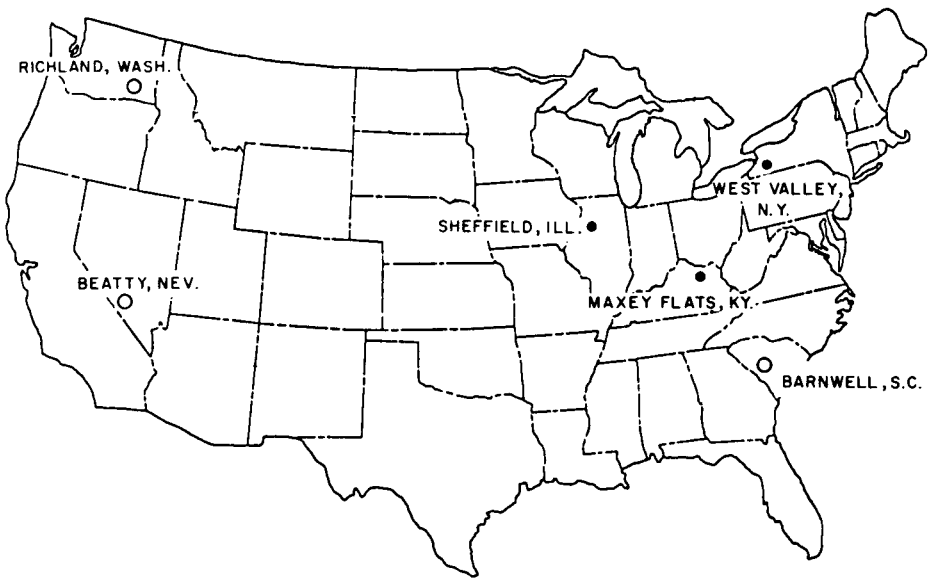
According to Dayal, the major problems found at the three closed burial sites are: loss of trench cap integrity; water accumulation in trenches, called bathtub effect; enhanced radionuclide migration; and complex leachate geochemistry, due to wastes being combined in burial. All of these problems are interrelated and interdependent, he says.

To address these problems, the NRC established regulations in 1982 that define those wastes acceptable for disposal in shallow land burial sites. A waste classification system was set up, with performance objectives given for each class of waste. Requirements were also outlined for maintaining and monitoring sites.

"Under the new regulations, the safe disposal of low-level waste is based on stability of the waste and the site," says Piciulo. "A major objective of site stability is to minimize water contact with waste. This, in turn, will reduce the potential for migration of radionuclides."

As for stabilizing the waste, he says low-level waste is now classified according to radionuclide concentrations, and the waste must meet certain minimum criteria before disposal. Class A waste has the lowest concentration of radionuclides and includes

(Continued on page 2)



Commercial low-level radioactive waste disposal sites in the United States. The open sites are marked by open circles; the closed circles indicate closed sites.

Low-Level Waste (Cont'd)

items such as contaminated gloves, animal carcasses and other lab trash. Class A waste must be packaged in such a way that there are no free liquids. Class B waste contains higher concentrations of radionuclides and includes materials such as ion exchange resins used to clean reactor water. Class C waste has the highest concentration of radionuclides presently acceptable for shallow land burial and must be disposed of in such a way as to prevent contact with an inadvertent intruder. Both B and C wastes must be processed into a form that will keep its physical properties over 300 years.

"The focus on site stability and waste form stability is aimed at protecting the public from radiological hazards for hundreds of years," says Piciulo. Adds Dayal, "Brookhaven studies of existing shallow land burial sites have confirmed the importance of trench stability and the need for better waste forms."

— Mona S. Rowe

Drivers Take Note

A Motor Vehicle Accident audit, performed by Special Hazards Engineer Roy McWilliams, Safety & Environmental Protection Division, indicates that on-site drivers could sharpen their driving skills. Apparently, they don't look before they back up, tend to speed and fail to obey "stop" and "yield" signs.

The survey was made from January 1, 1984 to September 30, 1984. During this nine-month period, Lab police investigated 33 accidents. Of these, 20 vehicles struck other vehicles, 12 struck objects (like a wall) and one resulted while the vehicle was motionless. The cause of 14 of these accidents was carelessness in going into reverse. All the accidents took place during the day and the season of the year did not seem to be a factor.

There is really no reason for backing-up accidents. If drivers pay attention, such accidents can be prevented. Speeding is o.k. on the track but many people seem to forget that there is a 30 mph speed limit on site and, on some roads, even lower speeds are posted. Sliding through "stop" and "yield" signs is no more acceptable on site than on the highway. In fact, all traffic regulations applicable on public roads are applicable on Lab thoroughfares.

According to observations made at intersections and open roadways, drivers of private vehicles are more at fault than drivers of BNL vehicles in observing traffic signs — by 32% to 24%, and in speeding — by 50% to 33%.

So far, we've been lucky. No one has been killed or severely injured. But, according to Inspector Alfred Berretta of the Police Group, 33 accidents in nine months are too many, and the Lab police are stepping up enforcement of traffic regulations. Their goal is to cut back on the potential for injury and to cut back on insurance costs resulting from these accidents.

Effective immediately, Traffic Violation Warnings will be issued to violators and a copy sent to the appropriate safety coordinator for action. In the case of a moving traffic violation, a copy of the warning will be sent directly to the department chairman. If an employee should become a chronic offender (two or more offences), further action would be required.

The Safety & Environmental Protection Division is distributing an Information Bulletin on this subject. Read it, and drive carefully.

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. Dept of Commerce, 5285 Port Royal Rd., Springfield, VA 22161. Staff members should call Ext. 5068.

NUREG/CR-3813
BNL-NUREG-51775
Minet Validation Study Using Steam Generator Transient Data. G.J. Van Tuyle

BNL-51776
On the Decay of Gaseous Puffs Emitted in the Turbulent Atmosphere from Industrial Sources. A. Levin

NUREG/CR-3834
BNL-NUREG-51785
Investigation of the Sulfur and Lithium to Sulfur Ratio Threshold in Stress Corrosion Cracking of Sensitized Alloy 600 in Borated Thiosulfate Solution. R. Bandy, K. Kelly

NUREG/CR-3844
BNL-NUREG-51787
Characterization of the Radioactive Waste Packages of the Minnesota Mining and Manufacturing Company. C.R. Kempf, et al.

WIS Party

The sixth annual cocktail party of the Women in Science will be held on the patio at the Brookhaven Center on Tuesday, June 18, from 5-8 p.m. Hot and cold hors d'oeuvres will be served, and there will be a cash bar. Reservations are requested and can be made by sending your check for $4.75 per person, payable to BNL-WIS, to Caroline Kramer, Building 475, Ext. 2673, by Tuesday, June 11.

CSCF Courses

Introduction to the VAX Cluster
10:30 a.m. to 12:00 p.m., Mon., Wed. and Fri., June 17 through 21.

Introduction to VAX/VMS File Editor
10:30 a.m. to 12:00 p.m., Mon. and Wed., June 24 and 26.

The C Programming Language for Programmers
10:30 a.m. to 12:00 p.m., Tues. and Thurs., July 23 through August 8.

All courses will meet in the AMD Seminar Room, Building 515. To register for courses, call Ron Wittlock at Ext. 4112.

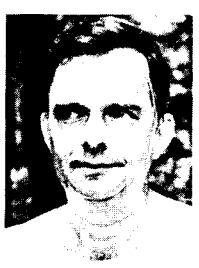
Speaking Out

Reporter: Alexander Laszlo
Photographer: Alex Reben

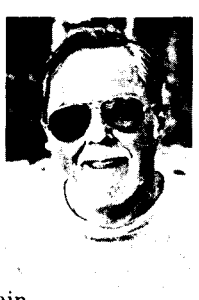
When the going gets tough, the tough head for the Parcourse Fitness Circuit. We asked BNL fitness-seekers how they use the Parcourse and what they get out of it.

Kimiya Nakai (DNE) - I use the Parcourse a lot now. Sometimes I bring my daughter and my wife with me on weekends. I combine exercise on the Parcourse with running outside of it, so that I get both flexibility and strength. I like all the stations, although I would like to see one for the back muscles.

Nancy Fallon (S&EP) - I try to do all the exercises. I've been doing this since last September. It really increases my stamina. I have a lot more energy for the rest of the day. I don't like to run on the roads, but I enjoy being out in the woods where the ground is soft. We could get some of these pine cones out of the way, but other than that, it seems very well set up.



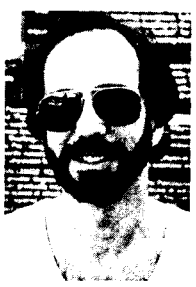
Ralph Sanders (AGS) - It's tough, and I'm sure most people can't get through at the "championship" level. For me, at least, doing this twice a week is probably the best exercise program I've had. When you leave this you know you've done something.



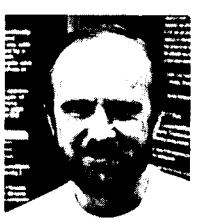
Ralph Jones (DAS) -I think the course is fine. I've been doing it for the last six weeks at least — three or four or sometimes five times a week. I think I'm like everybody else . . . chinning — chinning gets everybody annoyed. But you know — no pain, no gain.

Pam Spencer (Reactor) - I think most of the exercises are pretty good. Sheryl and I both walk and jog. I like the sit-ups; those are things that I can always count on being able to do.

Sheryl Golden (Reactor) - Pam and I just started two weeks ago. I think we're getting better. I like the leg stretches — the ones at the end. That's the easiest for me to do. My least favorite is the chin-up bar. We are never able to do it, but we try.



Laurence Littenberg (Physics) - I like to have an exercise program that involves alternating swimming and Parcourse exercise. I usually try to do some kind of exercise about five times a week. This is the best Parcourse I've ever seen.



Richard Pietrzak (DNE) - I like everything about it; both the nature and the exercise. I combine it with bicycling. And I feel exhilarated when I get done.

Kathleen Walker (S&ES) - It's nice. This is only my third time, but I'll be using it for the next three days. When you get done you have a kind of sense of achievement. I like the push-ups, but not the one where you lift your legs up to the bar and then over it.

Pick Your Own Strawberries

Here is the latest and most up-to-date strawberry farm location list for the Brookhaven area. If you like the idea of picking a peck o'berries, just consult our list below for the where, the who, the how much and the number. Over all, prices for strawberries seem to have gone down from what they were last year. So now's the time to grab friend or next of kin and head off on a **pick**-nick!

Osborn Farm: Main Street, Wainscott (537-1323). 8 acres. 7 a.m.-7 p.m. 75¢/qt., includes container. Children especially welcome.
Fritz Lewin Farm: Corner of Sound and Edwards Avenues, Calverton (727-3346). 7:30 a.m.-6 p.m. 85¢/qt or $2.50/4 qt. basket. Containers sold at 10¢/qt. or 50¢/4 qt. basket, or bring your own.
William J. Polak, Jr.: Church Lane, Aquebogue (722-3049). 4 acres. 7 a.m.-6 p.m. Prices not available. Containers available at cost.
Ferdinand Schmitt Farm: 49 So. on L.I.E., Melville (423-5693). 10 acres 8 a.m.-4 p.m. Prices not available. Including container
Kenneth Glover: 633 Horse Block Road and Strawberry Lane, Brookhaven (286-8721). 50 acres. 8 a.m.-8 p.m. 75¢/qt. Containers may be purchased. At least one adult for every two children.
Sep's Farm Stand: A.P. Sepenoski, Jr. Route 25, East Marion (477-1583). 5 acres. 8 a.m.-5 p.m. 60¢/qt., 10¢ qt. container.
Young's Orchard: 54 Sound Avenue, Riverhead (727-5363). 4 acres. 8 a.m.-6 p.m. Prices not available. Containers may be purchased, at 10¢/qt. or 55¢/6 qt. carrier basket.
Edwards Farm: N. Edwards Avenue, Calverton (727-0472 after 7 p.m.). 9 acres. 8:00 a.m.-6 p.m. 60¢/qt. Containers available, or bring regulation baskets.
South Breeze Farm: 260 Old Country Road, Melville (423-5914). 8 a.m. Come early. 85¢/lb. Container included. Children welcome.
Wickham Fruit Farm: Main Road, Cutchogue (734-6441). 9 a.m.-5 p.m. Mon.-Sat. 60¢/qt. Containers included.
Green Thumb: Montauk Highway, Water Mill (726-4989, 10 acres, 8 a.m.-5:00 p.m. Prices not available. Cartons provided. Children welcome.
Hodun Farms: River Road, Calverton (727-2816). 6 a.m.-5 p.m. 50¢/qt. Containers available at cost.

BROOKHAVEN BULLETIN

Published weekly
for the employees of
BROOKHAVEN NATIONAL LABORATORY

BERNICE PETERSEN, Editor
MONA S. ROWE, Associate Editor
ANITA COHEN, Reporter
MARSHA BELFORD, Reporter

35 BROOKHAVEN AVE., UPTON, N.Y. 11973
Telephone (516)282-2345

NYC Train Trip

The Hospitality Committee is planning a group railroad trip to New York City on Wednesday, June 19. Departure will be at 7:55 a.m. from the Patchogue LIRR station. Round-trip fare for adults is $5.00; children under five years ride free.

Reserve a ticket by sending your fare through the U.S. mail to BNL, P.O. Box 322, Upton, New York 11973. Please do not send cash. Checks or money orders, payable to BNL, must be received by Friday, June 14. Put the date of the trip, your BNL life number and your phone number on the back of your check or money order. Your tickets will be given to you at the railroad station on the day of the trip. Refunds will be made only if cancellations are received by the Monday morning preceding the trip.

Arrivals & Departures

Arrivals

Catherine Osiecki ..... Fiscal
Christopher M. Robertson ... C. Shops
William A. Watson III ..... Physics

Departures

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

Alice Alberico ..... Medical
William L. Barker, Jr. ..... Plant Eng.
George M. Counadis ..... Medical
Isadore W. Danowski ..... Medical
Willie Hill ..... Medical
Kathleen D. Hygom ..... Medical
Andrew W. Jackson ..... DEE
Katsumi Kobayashi ..... Biology
William R. Laws ..... Biology
Kathryn M. LePeer ..... Staff Svcs.
Gregory R. Matthews ..... S&EP
Juliet Mercer ..... Medical
Stephen B. Minton ..... Medical
Lorraine M. Tassinari ..... Medical
Samuel A. Wingard ..... AGS
Claire Zahra ..... Staff Svcs.

Cafeteria Menu

Week Ending June 14

Monday, June 10

Vegetable beef soup	(cup)	.65
	(bowl)	.85
Beef teriyaki & 1 veg.		2.35
Knockwurst & kraut		2.10
Hot Deli: Italian meatball hero		2.25

Tuesday, June 11

Cream of broccoli soup	(cup)	.65
	(bowl)	.85
Roast turkey & stuffing		
Hungarian noodle bake & 1 veg.		2.15
Hot Deli: Chili dogs		2.20

Wednesday, June 12

French onion soup w/croutons	(cup)	.65
	(bowl)	.85
Baked meatloaf & 1 veg.		2.15
Roast pork loin & 1 veg.		2.20
Hot Deli: Top round of beef	(bread)	2.10
	(roll)	2.30

Thursday, June 13

Split pea soup	(cup)	.65
	(bowl)	.85
Fish 'n chips		2.15
Special: "All the spaghetti you can eat". Served w. meatsauce		2.35
Hot Deli: Turkey breast	(bread)	2.10
	(roll)	2.30

Friday, June 14

Manhattan clam chowder	(cup)	.65
	(bowl)	.85
Ham steak Hawaiian & 1 veg.		2.10
Old fashioned beef stew on egg noodles		2.20
Hot Deli: Clam boat		2.15

BERA News

Summer Program

The 1985 summer recreation program will begin on Monday, July 1.

Swimming Classes

Place: BNL Swimming Pool
Activities: Each child will be scheduled for one lesson each week for eight consecutive weeks. American Red Cross certificates will be awarded to those children who qualify.
Time: Monday through Friday - 1:30 to 3:00 p.m.
Fee: $17 for each child upon registration. Also, each child will pay the daily admission fee of $1.25, or present a season ticket.
Participation: Children of all Laboratory employees. A minimum height of 48" is a participation requirement.

Registration applications may be picked up at the Recreation Office between the hours of 8:30 a.m. and 5:00 p.m.; the BERA Sales Sales Office in Berkner Hall between 10:00 a.m. and 3:00 p.m.; and the swimming pool during open hours. Mail or deliver applications with registration fees (checks payable to BERA) to Recreation Office, Building 185, no later than June 21.

Tennis Program

Place: BNL Tennis Courts
Activities: Basic tennis instruction
Time: Monday through Thursday - 3:00 to 4:00 p.m.
Fee: No fee or registration required.
Participation: Children of all Laboratory employees. Children will provide their own racquets and balls. Children who wish to play in the end-of-season tournament will be asked to pay a $2 entrance fee.

Friday Pool Specials

Place: BNL Swimming Pool
Activities: Water games and contests
Time: Each Friday (except 7/5) - 3:15 to 4:30 p.m.
Fee: $1.25 daily pool admission or present a season ticket. No registration is required.
Participation: Children of all Laboratory employees.

Astronomical Society

Observatory night this month will be Friday, June 7, beginning about 8 p.m., with the following Friday as the rain date. Those planning to attend should call Bob Mills, Ext. 5043, or Rick Jackinowicz, Ext. 3803, during the late afternoon in question. There will be an informal meeting immediately preceeding the observation session, starting at 7 p.m. in the Center.

Aviation Club

The Aviation Club will meet in the Cafeteria at noon on Wednesday, June 12. The past trip to Atlantic City, future trips and other business will be discussed.

BNL Singles Club

The Singles Club will meet on Tuesday, June 11, from 12:20 to 12:40 p.m. in Berkner Hall lobby.

Golf

The third tournament of the BGA golf season will be held on Tuesday, June 18, at the Swan Lake Golf Club. Tee times will begin at 11:30 and may be obtained by contacting George Speidell, Ext. 4688, or Joe Mayeski, Ext. 2575. There is a $1 entry fee for BGA members and a $2 entry fee for nonmembers. Greens fees will be $9. Entry fees and greens fees should be paid to George or Joe. Deadline for signing up is Friday, June 14.

Motorcycle Club

A meeting will be held on Monday, June 10, at 5:15 p.m., at the Recreation Building.

Register Your Child Now

On May 20, the class of three year olds at the Upton Nursery School and their teacher visited the Suffolk County Farm in Yaphank. During their tour of this working farm, the children fed the horses, goats, pigs and ducks, and saw chicks just two days old.

If you would like your child to take part in such adventures, now is the time to enroll your preschooler in the Upton Nursery School, which will begin its classes again in September.

Upton Nursery School is a non-profit, cooperative that operates on-site. Enrollment is open to three- and four-year-old children of BNL employees and their families. Classes are conducted by certified teachers, and parents assist them on a rotating basis and manage school business. The school offers a non-academic program with a variety of activities and social experiences.

Tuition is reasonable, and arrangements can be made for parents who cannot volunteer. For more information and enrollment forms, call Joan Rice, 924-8880.

Children from the Upton Nursery School are amazed at the 1,000-lb. beef cattle at the Suffolk County Farm.

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. 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.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees.

2261. FIREFIGHTER - Previous substantial firefighter experience is required. Completion of New York State EMT course and possession of training certificate is highly desirable, if not, completion of course within one year is required. Must be willing to work shifts at the completion of a thirteen-week training period. Safeguards and Emergency Services Division.

2262. LABORER - (Temporary to 9/27/85). Plant Engineering Division.

2263. AUTOMOTIVE OFFICE CLERK - Performs diverse office duties which include heavy telephone work, tabulations and computations, preparation and maintenance of purchase requisitions and service reports. Typing skills are required. Staff Services Division.

2264. SECRETARIAL POSITION - Requires AAS degree in secretarial science or equivalent, excellent communications skills, extensive knowledge of Laboratory policies and procedures and the proven ability to perform diverse administrative and technical secretarial duties. Will develop, implement and maintain a records system and prepare reports, and tabular and graphical materials on Personal Computers. Familiarity with epidemiological and statistical terminology and methods desirable. Department of Applied Science.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside applicants.

2265. P&GA OFFICE SPECIALIST - Under general supervision will perform complex and diversified clerical functions. Requires two years' post high school training or equivalent plus relevant work experience at an advanced clerical level. Photography and Graphic Arts Division.

2266. 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 available to work shifts as required. Plant Engineering Division.

2267. WELLNESS COORDINATOR - (half-time/one year appointment) - Requires MS degree in health education/physiology or closely related field, excellent communication skills, and experience in the design and implementation of work-site wellness programs. Will be responsible for setting up and maintaining a disease prevention/-health maintenance program for employees. Experience in health counseling and health risk assessment necessary. Medical Department.

2268. TECHNICAL POSITION - Requires an AAS degree or equivalent in electronic technology. Must be capable of troubleshooting using schematics and diagnostic equipment. Experience in electronic assembly, wirewrapping, PC board layout and debugging of digital circuitry is required. Some computer maintenance background desirable. Physics Department. (Reposting of Job #2205).

Autos & Auto Supplies

78 CHEVY MONTE CARLO - p/s, p/b, p/w, a/c, runs excel., needs minor cosmetic work, $2,150; 76 Kawasaki 400, $650; 76 Kawasaki 100KD, $225; father/son combo, $800 takes both. 473-1454 or 744-3284 eves.

81 DODGE OMNI 024 - a/t, p/s, am/fm cassette, two-tone ext., metallic blue/silver, 64.4k mi., immac., $4,250. Barbara, Ext. 2098.

MINI BIKE - $85. 924-4070.

TIRES - on GM rims, (2) snows, 78GR15, (3) radials, 78GR14. Ext. 3312.

75 MUSTANG - am/fm stereo, 302 V8, a/t, excel. cond. $1,200. Jon, 744-7242.

71 CHEVY IMPALA - V8, a/c, p/s, p/b, good cond, 82k mi., $600. Ext. 2673 or 744-8632 after 6 p.m.

78 MAZDA GLC - 4 cyl., 2 dr., hatchbk., a/t, sun roof, $1,350. 929-6003.

(Continued on page 4)

Autos & Auto Supplies (Cont'd)

78 KAWASAKI 650 - motorcycle, like new, $900; 1971 Volkswagen, red, runs well, $900. 286-0372.

83 NISSON PICK-UP - King Cab, 6k mi. Ed, Ext. 2362 or 3925.

75 FIAT 128 - 4 spd., am/fm, good eng., (2) new tires, needs work, best offer. Ext. 3714.

71 TRIUMPH TR-6 - green, new top, 4 spd., 89k mi., good cond., $2,500. 473-8292 or 928-0297 after 6 p.m.

81 DATSUN 200 SX - 5 spd., am/fm, 79k mi., good mech. cond., orig. owner. Cosmore, Ext. 2253.

74 CHRYSLER NEWPORT - 4 dr., high mi., $300 or best offer. 727-5912.

76 OLDS STARFIRE - V6, 4 spd., am/fm, good cond., 86k mi., $1,500. Ext. 2543.

82 DATSUN 210 - 4 dr. sedan, deluxe, 29k mi., orig. owner, $4,200. Kimura, 246-9327.

79 FORD PINTO - red, 4 spd., good cond. in & out, asking $1,200. Mike, Ext. 4605 or 281-5456 eves.

ENGINE CRANE - 1500 lb. cap., rolls on 4" steel wheels, $275; tow bar, frame mount, 5000 lb. cap., new, $160. 289-0413.

77 CHEVY IMPALA - 4 dr., V8, a/t, a/c, p/b, p/s, radio, excel. cond, $1,950. Ext. 3362.

82 TOYOTA - pickup, 4 WD, cap, grey/black, 8,700 mi., many extras. Mike, Ext. 7633 or 589-0578.

83 HONDA SHADOW - motorcycle, 750cc, black, garaged, showroom cond., low mi., $2,100. Ext. 4173 or 281-2257.

70 DODGE WINDOW VAN - 318, a/t, long wheelbase, heavy duty trailer hitch, new trans., $750. Ext. 3536 or 289-7615.

RIMS - (4), Cragar, with rubber, 3 useable, 1 blowout, make offer. Ext. 3536.

81 HONDA CM400E - great cond., low mi., $900. Tracy, Ext. 4421 or 475-8603 eves.

TIRES - radial, mounted on Olds rims, (2) 78GR14, (2) 78GR15, $10-$15 ea. Ext. 3312.

76 OLDS - 4 dr., white, 350, $1,650. Kevin, 563-1189.

80 CITATION - 4 dr. sedan, hatchback, std., gas-saver, excel. cond. 281-5532.

70 FORD - dependable, some rust, $300 or best offer. John, 878-0939 after 6 p.m.

78 FORD FUTURA - engine good, a/t, needs work, am/fm, p/b, p/s, 6 cyl. Ext. 4393 or 589-3272 eves.

78 TRAVEL TRAILER - Nomad, 20', fully self-contained, sleeps 6, used very little, excel. cond., $4,200. Ext. 4459 or 751-2095.

75 CHARGER - excel. cond., $1,400 neg.; '68 Super Beetle, body only, $500. 924-0960.

83 COLEMAN SHENANDOAH - pop-up camper, sleeps 7, full awning, screen room, like new, extras, $4,000. 878-4002.

(2) AUDI FOXES - '74 & '76, 1 runs, good for parts, both $500. 878-1178.

79 CHEVY MONZA - 2 dr., hatchback, V6, 4 spd., new brakes, tires, clutch, very clean. Ext. 2841.

81 OLDS DELTA 88 - diesel, orig. owner, a/c, 79k, $3,500. Jim, Ext. 3372.

75 OLDS CUTLASS - wagon, V8, orig. owner, good running cond., $950. 289-0012.

70 VW BUG - $250; VW front axle, $75; motorcycle windshield, $50; '75 Spitfire, $2,750. 744-2169.

75 AMC GREMLIN - 6 cyl., 3 spd., low mi., excel. running cond., good body, $800 neg. Jon, 928-6654.

72 MOBIL TRAILER - pull type, sleeps 6, Tandem wheels, good cond., $2,100. Ext. 2964.

70 AMC AMBASSADOR - 4 dr., 120k mi., excel. cond., V8, orig. owner, very well kept & garaged, a/t, a/c, p/s, p/b, must see, $600. Adam, 286-0439.

78 KZ400 - 6 spd., low mi., good cond., $750. 281-0360 after 6 p.m.

69 CHEVY PICKUP - good cond., OBR, $700. 878-1178.

79 SUZUKI GS1000 - 5,774 mi., mint, $2,000. Coles, Ext. 3082 or 585-7342.

85 MERCEDES 500SEL - loaded, low mi., metallic brown, all leather int. 941-4999.

78 OLDS CUTLASS SUPREME - 8 cyl., a/t, a/c, p/s, p/b, am/fm, sunroof, very good cond. Roseann, Ext. 3199 or 475-6622.

ALUMINUM WHEELS - w/185-60x13 Firestone S660 tires, new, lugs, fits Datsun & Toyota, $425 for (4). Dave, Ext. 4826 or 475-2626.

77 PLYMOUTH VOLARE - wagon, slant 6, new clutch, brakes, rebuilt, 4 spd., 133k mi., good radials, $500. Ext. 3785 or 473-7226.

70 MERCEDES BENZ - needs timing chain, $700. Jim, 369-7644 or 924-6681 after 5 p.m.

74 CHEVY WAGON - V8, p/s, p/b, a/t, clean, excel. cond., asking $950. Katsumi, Ext. 3406.

74 OLDS CUTLASS SUPREME - p/s, p/b, a/c, am/fm 8-track, excel. running cond., $800 neg. Ext. 7717 or 587-7662 eves.

82 VW SCIROCCO - 5 spd., new tires, 42k mi., am/fm stereo, cruise control, fog lights, asking $6,500. Vincent, Ext. 4706.

MOTORCYCLE - Honda 305cc Scrambler, not running, reasonable offer takes it. Bill, Ext. 2378.

Boats & Marine Supplies

16' SAILBOAT - Paceship, fiberglass, cuddy cabin, centerboard, 4 HP Evinrude, good cond., $1,500. Marty, Ext. 4290/4857 or 286-5897 after 5:30 p.m.

MOORING ANCHOR - chain, p.u. buoy & buoy, 150 lbs., $200. 289-8988 after 5 p.m.

SAILBOAT HULL - Sea Snark, no sail, make offer. Ext. 3536.

23' F/G SLOOP - 3 sails, 6 HP Evinrude, draws 4', 8' dinghy, sleeps 4, head & galley, many extras, very good cond., must sell, reason.; propeller shaft, 1-¼" dia. x 10' Tobin Bronze, both ends machined, very good cond., $50. Walter, Ext. 4605 or 938-8353.

MARINE MANIFOLDS - and risers for Mercruiser Chevy block, $150. 475-8710.

17' MFG - powerboat, fiberglass, 85 HP Evinrude, new canvas, $2,500; 100 lb. mushroom anchor, $75. Claire, 369-0432.

HOOKER ANCHOR - for 25'-30' boat, with 80' nylon line, excel. cond., $30; foldaway plastic boarding ladder, 5 steps, like new, $15. Ext. 3589.

26' PEARSON - 1972, 5 sails, 15 HP Evinrude, d/f, sleeps 4, many extras. Ext. 3921 or 689-9214.

28' OWENS - sleeps 6, standup head, sink, stove, ice box, new canvas, engine needs minor work, $2,500 firm. 281-0360.

18' HOBIE CAT - dual trapeze, trailer, complete, ready to sail, excel. cond., $3,100. Bob, Ext. 2897 or 473-3693 after 6 p.m.

27-½' CENTURY CORTEZ - 1979, twin 470 Mercury cruisers, fully equipped, low hrs., $19,000. 732-1243.

Miscellaneous

TREES - (4), Norway Maple, 7-9' tall, $35. 475-4394.

HAMS - Heath, CW transceiver HW16, with VFO, antenna tuner, SWR meter, coax switch, compl., $200; ham operators, HW16 transceiver, VFO antenna, tuner, SWR meter, coax switch, $200. Oster, 589-2648.

WOOD BURNING STOVE - cast iron, $25; steam jenny, rebuilt, $250; Craftsman arc welder, good cond., $250; (2) log holders, 4' dia., 2-½' dia., $5. Tony, Ext. 4605.

BIKE - 10 spd., 24", very nice cond., $30. Joey, 929-8321.

INSTANT CAMERA - Partystar trimprint, Kodak, brand new, never used, $60 value, $45. 281-5385.

MATTRESS - box spring and metal frame, $50. Barbara, Ext. 3437.

ELECTRIC CARVING KNIFE - Hamilton Beach, new, never used, $7.50. Ext. 4212.

SNAPPER RIDER MOWER - 8 HP, elec. start, 32" cut, grasshopper attach., excel., $800 neg. Ext. 3392 or 475-8330.

SLEEPING BAGS - (2), like new, goose down, zips together making double, $75 takes both. Bob, Ext. 4201.

LIVING ROOM COUCH - pine, Ethan Allen, platform rocker arm chair, (2) end tables, coffee table. 727-1518.

GUITAR AMPLIFIER - Yamaha G-112, mint, 50 watt, prof. quality, list price $450, $175 firm. Don, Ext. 2705.

OPALS - (4). Janet, Ext. 2345 or 929-8152.

TABLE - wrought iron, with glass top, 36" round, (4) matching chairs, excel. cond., $95. Ext. 4449 or 751-8403 after 6 p.m.

GE FREEZER - upright, $90. 744-5709.

CAMERA - Mamiya C33, twin lens, reflex, 2-¼ x 2-¼ w/80 mm lens, best offer; acoustic guitar, Fender F-75, mint cond., $250. Tracy, Ext. 4421 or 475-8603 eves.

RADIAL SAW - new, 10", combination with leg set, valued at $569.98, asking $350. 924-6582.

CELLAR STAIRWAY - $50; antique pump organ, $500. Don David, 286-2267.

COLONIAL LOVE SEAT - $55; full size chair, $35. Ext. 7686 or 878-0897.

GOLF BAG - man's, used only 2 seasons, with #1, 3, & 5 woods, good cond., $55. Ext. 2040.

TRAVEL IRON - new, $7; full bedspread with short drapes, $15; 2.5 HP outboard, oldie but goodie, $50; Little Tykes pool with slide, $20; air conditioner, $60. Bill, 286-8554.

LAWN THATCHER - Blue Bird, 5 HP eng., excel. cond., $400. 289-0413.

FENCE - 60" high, chain link, green vinyl, 200 ft., $1.50 per ft. Ext. 4613.

STEREO SYSTEM - radio, cassette, portable, Panasonic, $75. Ext. 7144.

REFRIGERATOR - 2 dr., Bradford, frost-free, works well, harvest gold, $75, you pick up. Judy, Ext. 5263.

TRUMPET - for student, $75; canopy bed, $75. Jim, Ext. 3372.

COMFORTERS - (2), down, 71x82, plus 4 down pillows, $200. Ext. 3107.

MOPED - Motobecane, as is, $100. Ext. 2543.

CASSETTE PLAYER - Lafayette, with speakers, $75; sofa bed, queen size, $250. 289-0967 after 5:30.

SAND FILTER - for large pool, multiport backwash, $50. Al, Ext. 2075 or 281-6617 after 5 p.m.

DISHWASHER - Westinghouse, under counter, new, never used, $100; 16" window fan, 3 spd., elec., reversible, adj. panels, new, in orig. carton, cost $49, sell for $25. 924-3236.

UPRIGHT PIANO - Bach, you transport, $250. 941-4999.

LUGGAGE - carry-on garment bag, brand new, used once, $25 or best offer. Ext. 2914 or 286-3742 eves & weekends.

BICYCLE - Schwinn, 10 spd., tire pump, chain, almost new cond., $75. 821-3168 after 6 p.m.

BUSINESS - manufacturing & distributing, marine related, presently operated part time, excel. growth potential. 298-4089.

LAWN MOWER - rider, good working cond., 8 HP, $100; lawn mower, very good cond., $30. Ext. 3589.

Free

REMNANT FABRIC - (1) large box, all kinds and sizes. Pat, Ext. 2452.

PUPPY - intelligent, beautifully marked Police dog. George, Ext. 5261.

KITTENS - 6 wks. old, (1) male, (1) female, all black. 286-3791 after 5 p.m.

Lost & Found

LOST - (2) softball mitts, May 16, field 6, (1) woman's, (1) child's. Ann, Ext. 2114.

Yard Sales

BALDWIN - Felix Ct., Milburn to Brookwold to Felix, June 15-16, tools, hardware, typewriter, toys, misc.

Car Pools

COMMACK - door to door, 8:30-5:00. Ted, Ext. 4030.

BAYSHORE - need ride daily, July 29-Aug. 23, share expenses. 665-5307 eves.

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 Rent

SETAUKET - private studio apt., centrally located to shops and bus transp., non-smoker, no pets, $450 mo., incl. util. 751-0345 after 4 p.m.

WHITE MOUNTAINS, NEW HAMPSHIRE - 3 bdrms., 2 baths, new condo, priv. deck, f/p, heated pool, clubhouse, Jacuzzi, tennis courts, hiking trails, near all area attractions, $375 weekly. 914-232-4039.

E. SETAUKET - 2 rm. apt., full kit., near SUNY, 1 mo. security, avail. July 1st, $425 incl. all. 928-4965.

FARMINGVILLE - 1 bdrm. apt., $500 incl. all plus cable. 732-2141 before 1 p.m.

For Sale

SOUND BEACH - bldg. plot, 80 x 100, $25k. Billy, 744-4261 after 7 p.m.

YAPHANK - 2 bdrms., 1-½ baths, condo., mint cond., full basement, pools, tennis, clubhouse, 2 mi. to Lab, $82,000. Henry, Ext. 4547 or 924-6688.

BAITING HOLLOW - ½ acre lot, hilly, treed, private waterfront community, with beach rights, $49,500. Ken, Ext. 2008 or 928-5875 after 6 p.m.

MEDFORD - 3 bdrms., 1 bath, l/r, d/r, gar., eik, new carpet, newly painted, vinyl siding, all appl., 1/3 acre plus, 93k. 289-1783 after 6 p.m.

MAINE - 18 acres of wooded land, all large trees, borders on stream. 878-1178.

ADIRONDACKS - 6 acres, 600 ft. waterfront property, 20 min. from Lake George, fishing, boating, swimming, terms avail., owner will hold mortgage. Pat, Ext. 3376/4960.

DUNNELLON, FLORIDA - near Ocala, 2 acres, Rainbow Lakes Estates, new development, new roads, water, electricity, flat land, ready to build, $9,000. Judy, Ext. 5263.

Wanted

CAR - July 16-Aug. 25. E. Leader, Physics Dept., London Univ. 1-580-6622 Ext. 289 or 1-435-8834.

CEMENT MIXER - 2-½ cubic ft., Sears type, motor driven. 286-8886 eves.

STAMPS - for stamp collection, send to L. Finlay, Bldg. 725B, preferably foreign.

PLAYPEN - good cond., toddler size; child's car seat; booster seat; reasonable price. Kathy, Ext. 2926 after 5 p.m.

TRAINS - Lionel, American Flyer plus access., fair prices paid. Carole, Ext. 3362 or 924-4097.

SMALL LOT - suitable for building, No. Shore, west of Wading River. D. Canniff, 724-4268 after 5 p.m.

MUSICAL INSTRUMENTS - used, for upstate New York college Music Dept. Judy, 289-7292 after 6 p.m.

HOUSE TO SIT - experienced, caring, responsible, any period June 2-Sept. 30. J. Allentuck, Ext. 2412.

SURFBOARD - for 8 yr. old, reasonably priced. Ext. 5371 or 286-0126 after 6 p.m.

FLUTE INSTRUCTOR - for beginner, close to BNL. Tak, Ext. 2823 or 282-3187 after 6 p.m.

HOUSEMATE - to share large house, 20 min. from Lab, washer/dryer, sundeck, $233 mo. plus 1/3 util. Ext. 2521 or 928-8379 eves.

HOUSE - 3-4 bdrms., for scientist and family, from June 20 for 2 mos. Ext. 4940 or

744-0045.

LOWER UNIT - from 1976-77 Mercury outboard motor, 85 HP. G. Meyerhoefer, Ext. 3084.

LABORER - mowing lawns, raking, minor landscaping duties, Saturdays & some

Sundays, $4-5 per hour. 732-7568.

Services

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

PAINTING - interior & exterior, reasonable rates, BNL refs. John, 924-5012 eves.

FRENCH LESSONS - by French-born teacher. 289-6898 after 4 p.m.

SHEETROCKING - & spackling, free estimates. Kevin, 563-1189.

CHARTER BOAT - 22', all fish in season. John, Ext. 4312 or 273-2099.

HOME IMPROVEMENTS - all phases, carpentry, decks, roofs, painting, additions, free estimates, references. Tom, Ext. 2959 or 331-1430.

PAINTING - interior & exterior, free estimates. Chris, 728-2774 or Tom, 878-1767.

LAND CLEARING - using excel. rake on JD 450 track loader, $45 hr. with operator. Tom, Ext. 4084 or 878-1060.

HOME IMPROVEMENTS - roofs, siding, gutters, windows, free estimates. 289-9238.

BABYSITTING - Bellport, in my home, experienced, refs. Maryann, 286-2435.

GENERAL CONTRACTOR - carpenter, extensions, dormers, garages, conversions, basements, decks, kitchens, licensed. Jim, 698-2501.

KAYAK LESSONS - Slalom and Sea Kayak, equip. supplied, basic course, $60, Mastic, Moriches, $60. Ernie, Ext. 2957 or 281-7873.

WEEKEND BABYSITTING - on site, responsible teenager. Tamara Munoz, 924-1421.

PARTY TENT/CANOPY - 20x30, we set up & take down, all occasion. Fred Kuehl, Ext. 7947 or 588-2268.

TREE REMOVAL - & trimming, free estimates. Ken, 289-8212 eves.

MAGIC SHOWS - shows to meet all budgets, clowns, baloon sculpture and much more, children's parties our specialty. 654-9094 after 6 p.m.

BABYSITTER - reliable, experienced teen avail. nights & weekends or full time in summer. Mary, Ext. 2926 or Chris, 281-0268.

JEWELRY REPAIR - gold and silver, rings, chains, etc. Dan, Ext. 2319.

PAINTING - interior & exterior, professional, experienced, refs., free estimates. Rand, 751-1149.

BABYSITTING - 14 yr. old girl who loves children, our home or yours, summer. Liz, 286-8563.

VIOLIN LESSONS - by experienced teacher, all ages, also Suzuki method. 821-0754.

BLACKTOPPING - & paving, quality work at reasonable rates. Russell, 643-8938 or 643-6363.

FIRESIDE CHIMNEY SWEEPS - fireplaces, wood, coal & oil flues, relining, caps, stove parts, Lab discounts. 821-9690.

HOME IMPROVEMENTS - dormers, extensions, carpentry, brickwork, painting, decks, roofing, landscaping, free estimates, licensed & insured. Mark, 744-3298.

AIR CONDITIONING - & refrigeration service, residential & commercial, Lab discount, licensed. Danny, 281-0657 after 5:30 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 ☐ Wanted ☐ Free ☐ _____

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).