



The first two magnets, shown here in their cryostats, were initially used to deflect 28.5 GeV protons to a joint Yale-BNL experiment. At right is Paul Akins, an electrician at the AGS.
— photo by Rosen

All Four Magnets Are Super

The most ambitious superconducting beam transport system undertaken to date moved a giant step toward completion last week with the successful testing of the fourth and last of the dipole magnets designed for the High Energy Unseparated Beam from the AGS to the MPS, or Multiparticle Spectrometer. These four magnets are among the largest superconducting dipoles constructed anywhere and represent the finest examples of the state-of-the-art of superconducting magnet technology today.

Each magnet is 2.5 meters long, weighs ten tons, and produces a deflecting field of 4 Tesla over a warm bore aperture of 20 cm. Because of the unique magnet design, the magnetic stored energy of approximately 1 MJ can be dissipated without damage in the magnet coil during a "quench" without a protective energy extraction system. The magnet design is very similar to that of the longer (and smaller

cross section) dipoles for ISABELLE. A major component of the beam line is the massive refrigerator, built by Cryogenic Technology Inc. to BNL specifications.

The first week of September saw the installation of two of these magnets in the beam line, and the first protons traversed them without incident the following week. Last Tuesday the remaining two magnets were transported from the Cosmotron construction site to their final location at the AGS, promising completion of the beam line essentially on schedule. The construction and successful performance of these magnets is the culmination of a dedicated effort by members within the ISABELLE Division of the Accelerator Department, as well as many Laboratory service groups. Their operation will provide valuable experience in the superconducting technology underlying the ISABELLE project.

Getting On With The Energy Job

In a speech before the Sixth Vail Symposium at Vail, Colorado, ERDA Assistant Administrator Robert L. Hirsch defined the energy crisis and outlined the pros and cons of energy alternatives. The following excerpt is reprinted from the ERDA News:

Nuclear

"Let's consider some of the choices that we have for new energy sources. To begin with there is nuclear power. The good news is that it is here today and it works and it has produced very significant amounts of electrical power in a safe and reliable and economical manner. The bad news is that fission energy produces a good deal of radioactivity and we have yet to establish the best means of disposing of it in such a manner that we can be certain that it will not pose a hazard for the hundreds of thousands of years that it must remain in storage. In addition, accidents that can occur in any kind of mechanized plant could be worse in a nuclear power plant because of the radioactivity that is involved. And then there is the problem of safeguarding fission fuels so people won't steal it to make bombs.

Next consider the fast breeder reactor which is a nuclear reactor that can extend our ability to use fission from many tens of years to maybe thousands of years. The fast breeder reactor is now in advanced development. Its advantages are that the fuel costs of the breeder reactor should be very, very low because it can make more fuel than it consumes, and of course it would be nonpolluting in a chemical sense. On the other hand, the breeder reactor utilizes sodium which is highly flammable and it produces large quantities of plutonium, which will have to be safely handled and protected from diversion for clandestine purposes.

Coal

And then there is coal. U.S. coal reserves are capable of providing energy for many hundreds of years. That is the good news. The bad news is that much of our coal has a very high sulfur content, and we have to

find ways of effectively, reliably and economically removing sulphur from coal so it does not pollute our air.

Coal offers us the potential of producing liquid and gaseous fuels to substitute for the liquids and gases that we use today. The problem is that the processes that do that appear to be very expensive.

Geothermal

Then there is geothermal energy - taking heat out of the ground and using it to produce electrical power. Electrical power from geothermal energy is being produced now on a large scale near San Francisco. The cost of energy from geothermal sources looks to be very competitive. That's the good news. The bad news is that geothermal reservoirs seem to lie in areas that contain geologic faults, and by removing the geothermal energy we may trigger earthquakes.

Oil Shale

Then there is oil shale - rock that contains significant amounts of oil dispersed through it. Scientists have developed techniques for extracting that oil either by bringing the shale to a conversion plant or by processing it directly in the ground. That is the good news. The bad news is that the above ground techniques require altering the countryside in a major way and using large quantities of water that is scarce in the shale region.

Solar

And then there is solar energy, which is just about everybody's favorite. The sun shines in all parts of the country and so is available to all. That is the good news. The bad news is that the solar flux on the earth is inherently very diffuse and so to collect that energy we must cover very large areas with some kind of material. If we use the cheapest thing we can think of, which are mirrors to reflect the sun's energy into collectors, we still end up with something that is very, very expensive. Energy storage requirements skyrocket in areas where there are consecutive days of cloudiness. Electrical power from solar energy could be as

(Continued on page 2)

Laboratory Conservation



Austin Heller, Asst. Administrator for Conservation (ERDA) at far right, visited here on Tuesday and was shown how the Lab conserves energy on site. With him at the Physics Building are: (from left) E.E. Shelton, L. Jacobson, R.C. Terwilliger, R. Drucker (ERDA area office), A. Mahlmann, E.H. Tuttle (Division of Facilities & Construction Management ERDA), and V.R. O'Leary.



Chef Sam Faber begins the selection of a variety of wines and cheeses to savor at intermission between the Lionel Hampton and Pat Cooper Shows on Sunday, November 7. Both entertainers and the half-time repast are included in the bargain bicentennial price of \$17.76 per couple, or \$9 per person. Get your tickets while they last, at the Bank today or from the Recreation Office in Personnel (Ext. 2873). Choice seats are still available.
(Story on Page 2)

Inside The NYC Marathon

Under cloudy skies on Sunday morning, October 24, five BNL runners gathered with 2002 other runners at the toll booth of the Verrazano Bridge in Staten Island. They stood poised waiting for the sound of the gun that would send them on their way for what has now been described as the greatest U.S.A. marathon ever.

The route carried Bob Bari, John Beerman, Paul Kupferman, Gus Prince and Bob Tucker through all five boroughs of New York City.

One can only wonder what was passing through the minds of the runners from 37 states and nine foreign nations, but for three of the BNL runners the thought was - can I finish? - since they had never competed in a marathon (26 miles and 385 yards).

The gun sounded and the runners in parade like fashion were on their way across the bridge.

After about one mile the pace quickened and the BNL'ers knew they were in the real thing.

The enthusiasm of the crowds lining Fourth Avenue in Brooklyn quickened the runner's cadence, who at that point were convinced they would finish.

At the ten-mile mark Sol Pearlstein (DAS) was there with liquid refreshment, shoes and extra jackets. How he got from Staten Island, parked his car and proceeded to run alongside offering encouragement is a mystery.

At the 15-mile mark coming off the Queensborough Bridge, they saw Steve Amoretty (Technical Information) who also, like an angel of mercy, provided liquid refreshment and ran alongside offering advice, times, etc., and spurred on the BNL runners.

Again at the 20-mile mark in the Bronx, both Sol and Steve reappeared - they must have been using a helicopter.

By now the runners had hit the "wall" and hardly recognized them, and again the kind words of encouragement helped them to continue.

At the 23-mile mark the crowd grew larger - the dogs ignored it all - and suddenly it was there, the 26-mile mark and only 385 yards to go - and all was beauty, the crowds yelling, the runners in pain and agony, the officials calling out the times, and the people handing out warm drinks. Suddenly it was all worth it.

Yes, Bob Bari (DAS) with a time of 4:20, John Beerman (DAS) at 3:45, Paul Kupferman (AMD) with a time of 3:40, Gus Prince (DAS), the old vet, with his best



Three happy runners - from the top, John Beerman who clocked in at 3:45, Bob Bari at 4:20 and BNL's top runner, Gus Prince at 3:10. Bob Tucker and Paul Kupferman were not available when this picture was taken.

time of 3:10 and Bob Tucker (Phys. Rev.) with a time of 3:50 felt it was all worth it and they would do it again, but not on Monday. —Gus Prince

Energy Alternatives (Cont'd)

much as 10 times more expensive in the northern parts of the country.

Fusion

And then there is fusion. Fusion is the source of energy in the sun and the stars and is probably the most elemental energy source in the universe. Its fuels are forms of hydrogen and lithium that are in essentially infinite supply and cost essentially nothing. Fusion does not have the diversion problems associated with fission, and there is no chance of any kind of runaway reaction in a fusion system. That is the good news. The bad news is that fusion requires maintaining temperatures of 100 million degrees near material walls that melt at a few thousand degrees.

So there we are. We are not in a position where we can make any obvious choices today because we cannot fully judge the costs, the benefits, the reliability, and the environmental effects of any of these new energy sources prior to having brought them almost all of the way through R&D to essentially the point of commercialization. Furthermore, what I would consider to be the most attractive technologies - those that can provide all the energy we need for the long term - those technologies are the most difficult to develop and will take decades to bring through the demonstration phase.

We have to resolve to get on with the job of developing and deploying new energy sources on an urgent basis. We must strongly push energy conservation to stretch the energy that we have.

Audubon Lecture & Film

The popularity of last year's wildlife lecture and film program has prompted the BERA Outing Club to again arrange with the National Audubon Society an exciting program for the pleasure of wildlife devotees. The film is entitled "The Vanishing Eden," narrated by Stefan A. Kling.

"The Vanishing Eden" is the story of southern Florida's "River of Grass" including many fish, reptiles, otters and birds that inhabit the area and beautifully illustrates the means nature provides for their survival. The wildlife of this region creates a panorama that is unquestionably one of the most spectacular to behold.

Kling acquired his appreciation for plants and wildlife from his early school years in the Appalachian foothills. While attending Miami-Dade Community College, he took advantage of Florida's climate spending his free time observing the indigenous flora and fauna. As an Audubon Wildlife Speaker, he combines his wildlife appreciation, plant studies, and love of travel.

The program will be presented at Berkner Hall on Wednesday, November 10, at 8:00 p.m. There will be an admission fee of \$2 for adults and \$1 for those under 18 and over 65.

Light refreshments will be served immediately following the program.

Rabi And Long Honored

On the 30th anniversary of Associated Universities, Inc. (AUI), Honorary Trustees I.I. Rabi and Franklin A. Long were presented with commemorative plates for their many years of distinguished service on behalf of Brookhaven and the National Radio Astronomy Observatory.

Dr. Rabi, an Incorporating Trustee, has served continuously on the Board since 1946. He was also acting President of AUI from April 1961 to October 1962, and Chairman of the Board the following year. In accepting the plates at the Trustees' dinner, Dr. Rabi paid tribute to Leland Haworth, second Director of the Laboratory, for his achievement in bringing to Brookhaven the facilities that gained it international fame.

Dr. Long was elected to the Board on February 28, 1947. He, too, served as Chairman of the Board, from 1967 to 1968, and as acting President of AUI from July 1, 1968 to May 1, 1969.

New University Trustees elected at the annual meeting last week were: Aihud Pevsner, Johns Hopkins University, for a period of three years, and Richard A. Zdanis, also of Johns Hopkins, who will fill the unexpired term of Dr. Harry Woolf, former Provost of the University. Dr. Woolf, who was appointed Director of the Institute for Advanced Study at Princeton, N.J., remains on the Board as Trustee-at-Large.

Elected last June to replace Professor J. Curry Street, who retired, was Dr. Robert V. Pound of Harvard University.

Retiree



Marie Reynolds began working at the Lab on June 6, 1963, in Plant Engineering. She worked there for ten years and has since transferred to Purchasing where she worked as a Secretary. She retired on October 22, 1976. —photo by Rosen

Claim Checks To Be Mailed

In an attempt to expedite payment of medical insurance claims submitted by employees, the Laboratory has arranged to have Connecticut General Insurance Company mail all checks directly to the employees' home addresses.

To ensure prompt delivery of medical insurance checks, employees are requested to provide current home addresses on all future medical insurance claim forms.

Medical claims will continue to be processed through Personnel Services and questions regarding medical insurance coverage or payments should be directed to Patricia Gomez or Charlotte Schuette on telephone number 345-2877.

A Travelogue of France

The next meeting of the French Group of BNL will be held at 8 p.m. on November 8, in the Recreation Hall. The evening will be devoted to a "do-it-yourself" travelogue, with YOU, *gentil membre*, supplying the captions to the many slides that we hope to show. The subjects of the photographs will not be identified - they will be well-known sights in France, but photographed from unusual points of view so that they will not be immediately recognizable (we hope). There will be a prize (or prizes, depending on the generosity of *Madame la Trésorière*) for those who are the best-traveled. We need 2" x 2" slides for this program, so if you have any suitable ones to contribute, please contact either Paulette Goodman (744-8449) or Ralph Weston (Ext. 4373) as soon as possible.

Laboratory members and their friends are cordially invited to attend this meeting. Those who are not members of *Le Cercle Français du BNL* will be asked for a nominal donation to help cover the cost of refreshments. —Ralph Weston

Swine Flu Vaccine

Information and registration forms are available in departmental and division offices for those who wish to receive swine flu vaccinations. Employees of the Laboratory, AUI and the Brookhaven Area Office of ERDA are eligible. Registration forms should be returned to G.C. Kinne, Building 460 by November 5.

Plotkin President of NPSS

The Nuclear and Plasma Sciences Society of the Institute of Electrical and Electronic Engineers has elected Martin Plotkin of the Accelerator Department President of the Society for a period of two years. During the past year, he served as Secretary of the Administrative Committee.

The Society has over 2000 members and, among other things, sponsors a number of conferences, of which one is the biennial Particle Accelerator Conference.

Plotkin is one of Brookhaven's earliest employees and was one of the leaders in the design and construction of both the Cosmotron and the Alternating Gradient Synchrotron. For many years he has been the Chief Electrical Engineer of the Accelerator Department. Recently he has begun to take an active part in the design of the ISABELLE colliding beam project.

CREF Unit Values

1976			
January	\$40.31	February	\$39.76
March	40.75	April	40.10
May	39.69	June	41.60
July	41.21	August	40.94
September	\$41.59		

It's Show Time At Berkner

Vibes, laughs, songs and dances are all included in BERA's Special Event, the entertainment bargain of the year. Two mainliners, Lionel Hampton and Pat Cooper can both be enjoyed for the price one of them would normally cost elsewhere - and you don't have to travel all day to see them.

The special price of \$17.76 per couple, or \$9 per person could be negotiated only because both entertainers were scheduled to be in the area on Saturday and were free to come to the Lab on Sunday, November 7. You have your choice of two complete show sets, beginning at 4 p.m. in the afternoon, or at 7 p.m. in the evening.

An elegant spread of wines and cheeses, included in the ticket price, will be set out for your enjoyment in between the acts. Cash bars will also be open.

Pat Cooper opens the show. He was born Pasquale Caputo in Brooklyn, and his reminiscent humor about Italian family life has audiences holding their sides. He is one of top comedians in the business today.

After appearing at the Lab, Pat heads for bookings at the Chateau DeVilles in New England, then on to the Club Bené in South Amboy, the Ben Segal Theater in Ft. Lauderdale where he will share the billing with Sergio Franchi, and finally to Miami for a long holiday stint.

The Lionel Hampton Show consists not

only of the King of Vibes himself and his world-renowned Inner Circle Orchestra, but also features the singing talents of Sandy Patton and tap dancer Bunny Briggs.

Sandy is most noted for her renditions of "My Way," "Alone Again," and "You're Going to Miss My Lovin'!" Bunny is sure to bring back the nostalgia of musical heydays when he taps out the rhythm to "Broadway" and "Bo Jangles." He has appeared recently at Grossinger's and The Concord.

The Hamp is entering his 45th year as a musical performer; and if there is any clue that this jazz ambassador is about to ease up, it's not discernable. Traveling as much as ever, he has been touring the jazz capitals of Europe and the Far East.

Besides traditional jazz, he has invaded blues and rock. It is a little known fact that Hampton cut a rock-and-roll album ("Rock and Roll Rhythm") way back in the 1940's. At a time when renewed popularity of jazz is at its peak, Hamp is a favorite among the young. High on his list of recent triumphs is the spectacular jazz special "One Night Stand," which reunited him with many of his old playing cronies, including Gene Krupa, Mel Torme, Buddy Rich, etc., and a hit Broadway revue with Bette Midler that broke all house records and was sold out through the entire ten-week engagement. —Bey Goldstein

BROOKHAVEN BULLETIN

It's That Time Of Year Again

Published Weekly for the Employees of Brookhaven National Laboratory

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Election Day Hours

On Election Day, Tuesday, November 2, the normal working hours for the Laboratory will be 0830 to 1500. All employees working this schedule will be paid an additional two hours straight time so that there is no loss of base pay. Non-exempt employees who are required to work a full eight hours, will be paid for ten hours of work at straight time.

Time cards for non-exempt employees working the normal Election Day schedule should show 1500 as their time out and "E" should be entered in the remarks column. All other non-exempt employees' time cards should show time actually worked and "E" should be entered in the remarks column.



"'Tis now the very witching time of night" - and also time to set your clocks back one hour. This year, Halloween and the time-switching routine occur on the same day, October 31. Before you go to bed Saturday night, set the clock back one hour, and get some extra shut-eye Sunday morning in preparation for the onslaught of the ghosts and goblins. —photo by Rosen

Football

Three tight play-off games were played last week.

Roga beat the Chickens 12-6, Ted Daniels of Roga had two T.D.'s and Jerry Levine had the Chicken T.D.

The Slow Pokes beat the Tee-Dees 21-12. The Johnson Brothers, Charley and Fletcher scored all the Slow Poke T.D.'s while Green had two T.D.'s for the Tee-Dees.

The Sweathogs won on a safety, beating the Old Timers 8-6. Sam Hatt had the Hog T.D. and Dick Tache had the Old Timer T.D.

Cooking Exchange

Are you looking for the perfect Christmas present? Something unique but tasteful? Something special for someone "who has everything"? We can solve your problem with a present that's good to eat! Come to the Cooking Exchange meeting on Wednesday, November 10 and see, taste and hear "gifts of food."

Everybody is always welcome and volunteer demonstrators appreciated.

Cafeteria Menu

Week Ending November 5, 1976

Monday, November 1	
Tomato Vegetable Soup	
Keilbasy & Sauerkraut	1.10
Grilled Ham Steak & 1 veg.	1.25
Tuesday, November 2	
Cream of Potato Soup	
Southern Fried Chicken & 1 veg.	1.10
Welsh Rarebit Casserole w/toast	1.00
Wednesday, November 3	
Beef Barley Soup	
Tuna Noodle Casserole	1.10

Special	
Cup of Soup	
Tacos & Refried Beans	
Pie or Ice Cream	
Small Beverage	\$1.68 plus tax

Thursday, November 4	
Chicken Noodle Soup	
Chili Dogs & Rice	1.00
Beef Hash & 1 veg.	1.15
Friday, November 5	
New England Clam Chowder	
Broiled Filet & 1 veg.	1.15
Roast Sirloin of Beef & 1 veg.	1.30

Arrivals & Departures

Arrivals	
Cheryl A. Beckwith	App. Science
Richard E. Noble	Accelerator
Arkady N. Zeldin	App. Science
Departures	
Marie Reynolds	Purchasing

Sports News

Bowling

Red League

J. Scesny had his second 600 series (601 scratch) raising his average to 188. R. Larsen missed his club award by 3 pins (597 scratch) and is now up to 186. The '76'ers are making their move! High games for the night were J. Scesny 231, R. Larsen 215, J. Connelly 208, R. Wilson 207, J. Roesler 202.

Black & Blue League

Having won his 678 club award the week before, "Handsome" Budd felt that he had to do better this week. His approach was flawless, the release and follow-through were picture perfect. The ball tracked perfectly down the lane and 60 feet from the point of release smashed dead center with a loud crash into the gate. Equally perfect was the approach and release of one of the gentler members of our league (who threatened to kill me if I told). No she did not hit the gate. Her target was the scorekeeper! High games for the night were Charlie Tomesch 200, Colleen Holland 170. High gross pots were won by Colleen Holland 238 and Bill Sells 237.

Purple & White League

10/14/76: The Woodchucks are still in the lead. High games for the men were Art Lipman 207, Nate Carter 202. High games for the ladies were Diane Schlug 178,

Nancy Mayeski 177. Nancy also converted the 4-10 split.

10/21/76: The Odd Balls have taken first place. High games for the men were Art Lipman 213/571, Jim Petro 214/563, John Usher 210/529. Gail Thompson was high for the women with a 186/478.

'76 Race Results

20 Kilometers

Male Under 16	
1 John Murray	86:11
Female 20-29	
1 Annette Racaniello	90:05
Male 20-29	
1 Wayne Danker (DAS)	74:31
2 Ted Landry (DAS)	77:17
Female 30-39	
1 Karen Fernandez	93:15
Male 30-39	
1 Paul Fetscher	71:08
2 Ray Kunselman (Phys)	76:29
3 Howie Bergesen	76:57
4 David Edwards (AGS)	82:22
5 Stephen Krasney	82:31
6 Bill Thomlinson (Phys)	84:26
7 Bob Tucker (Phys Rev)	85:38
8 John Beerman (DAS)	88:22
9 Bill Piel (Phys)	89:24
10 Norris Marshak	92:53
11 Bob Bari (DAS)	94:48
12 Ron Weider (AGS)	95:07
Male 40-49	
1 William Heinbockel	77:27
2 Arthur Harris (AMD)	102:13
Male 50 and Over	
1 Gus Prince (DAS)	78:06

Bank Holiday

The on-site branch of Bankers Trust of Suffolk will be closed Election Day, November 2.

AUI Scholarships

Parent of eligible students are reminded that completed applications for AUI Trustee Scholarships are due at Educational Testing Service, and a copy given to the Office of Scientific Personnel, no later than November 12, 1976.

If further information is required, contact the Office of Scientific Personnel, Ext. 3338.

Vehicles Public Sale

Five (5) vehicles, located at Warehouse T-87, will be available for Public Sale.

Inspection will be permitted from November 10 through November 19, during the hours of 9 a.m. to 4 p.m., except Saturday and Sunday.

Bids will be opened on November 23, 1976, at General Services Administration, Business Service Center Bid Room, 26 Federal Plaza, New York, N.Y.

This will be an informal competitive bidding. Bid forms may be obtained at Buildings 87 and 211. For further details, please call extension 2302 or 2977.



1976 Softball Winners

At left - League II - Six Pax. Front row: Jack-Baer, Arthur Dick, Lou Adessa, Dick Lingg. Back row: Ken Asselta, Bob Vignato, Vinnie LoDestro, Charlie Bohnenblusch (captain), Kenny Riker, Ed Meier, and Dennis Klein. Not pictured: Larry Schiro, Russell Lowell, and Chuck Carlson.



At right - League V - Oh-Kays. Front row: Rosemary Mack, Kay Hunt (captain), and Sy-dell Lamb. Back row: Ken Sutter, Leroy James, Bob Rowley, Ed Taylor, and Howie Antonio. Not pictured: Jackie Larrie, Jean Hamilton, Ruth Faine, Debbie Antonio, Fletcher Johnson, and Reggie Hunt.



League III - Circuits. Front row: Al Mack, Ben Guidone, Sol Pearlstein, and Frank Haibon. Back row: George Hughes, Dick Squires, John Schmidt (captain), Bob Schuman, Bill Hardy, and Woody Greenlaw. Not pictured: Mike Zepmeisel, Joe Mead, Joe Klemish, Tony Brown, Art Lipman, Jerry Levine, Charles Brinkman, Jeff Gaffney, and Arthur White.



League IV - Streakers. Larry Arnold, Harvey Graveley, Arnie Kreisberg (captain), Mike Bannon, Jay Bartolomey, and Ken Kennedy. Not pictured: Stan Mars, Fred Kobasiuk, George Murdock, Vince Lettieri, George Spiedel, John Post, Harry Ackerman, Don Meany, George Harris, and Tony Krupien.



League I - Ravens. Front row: Bob Rowley, Spider Ligon, Jim Garrison, Jose Lopez, Harold Bowling, and Wayne Smith. Back row: Leroy James, Freddie Lolling, Ed Taylor, and Mac Thomas (captain). Not pictured: Howie Bell, Bob Brown, Al Cordero, Mike Losquadro, and Bob Barone.

Classified Advertisements

Placement Notices

Each week the Personnel Office lists personnel placement requisitions, currently being processed. The purpose of these listings is, first, to give notice of all non-scientific staff positions being filled and, second, to give employees an opportunity to request consideration for themselves through the Personnel Office. In filling vacancies, the Laboratory's objective is to give first consideration to present employees, as follows: employees within the immediate group having the vacancy, employees within the department or division, employees within the Laboratory as a whole.

For further information regarding a placement notice, or to request consideration for an available position, contact Supervisor, Personnel Placement & Development, extension 2874 or 2882.

236. FACILITIES ENGINEER - Seeking BS degree or equivalent in civil engineering. Minimum five years' increasing responsible experience in structural steel and reinforced concrete design, preparation of working drawings and specifications, and estimating. Field supervision experience helpful. PE license desirable. Plant Engineering Division.

237. CHAUFFEUR - Staff Services Division.

238. SUPERVISOR - Will be responsible for all phases of first-line supervision and coordination of work for employees in carpentry, lock shop and related crafts. Buildings Maintenance Group. Plant Engineering Division. [Correction for Placement Notice #235].

239. TECHNICIAN - AAS degree or equivalent in electrical technology with three to five years' experience to work on proton beam instrumentation at AGS. Knowledge of digital and analog circuit design and construction required. Familiarity with computer interfacing and radiation monitoring desirable. Accelerator Department.

Autos & Auto Supplies

69 CADILLAC - Sedan de Ville, \$940. Ext. 3267, 473-2594.

2 SNOW TIRES - New, 670-15. \$9 each. Dick, Ext. 3386.

2 SNOW TIRES - Goodyear, A78-13. \$25 for pair. Canol, Ext. 2345.

KAWASAKI - F250, street & trail, 1974, immaculate, under 2000 mi. \$600. Bob, Ext. 4411, 727-2346 eves.

76 SUZUKI - GT 550, 2500 mi, windshield, crash bars, bags. Fales, Ext. 3260.

67 JEEP WAGONEER - 4 wheel drive, good running cond. \$850. 583-5981.

68 TEMPEST SAFARI - Station wagon, ps/pb, auto, roof rack, excel tires, good cond, good value at \$550. Frank, Ext. 2048.

59 VW SEDAN - Customized, running cond. Best offer. 281-3460.

73 DODGE CHALLENGER - Ps/pb/ac, excel cond. \$2750. 981-5993 after 6.

SUZUKI TS - 400, road & trail, 8000 road mi, excel cond. \$750. Mac, 928-7035.

2 SNOW TIRES - Cooper, D78-14, one season's wear, excel cond. \$25. 751-1588.

70 CHEVY - Monte Carlo, fully equipped, excel cond, high mi. \$1000. Walker, Ext. 4633.

69 HONDA 750 - K-O custom motorcycle, black/chrome, excel cond, low mi, extras, must sell. \$1500 or best offer. Ed, Ext. 4485, 231-7529 eves.

67 FORD GALAXIE - 390 eng, at/ps, 67,000 mi. 286-8062.

70 BMW 2002 - 4 spd, 10⁵ miles, still fun to drive. Asking \$1800. 286-0384, Ext. 4492.

72 CUTLASS - Good cond. Sundays, 751-8918.

69 IMPALA CHEVY - Runs fine, good rubber, \$300 or best offer. Ext. 4417.

69 CORTINA - Station wagon, runs well. \$300. 473-7739.

65 PLYMOUTH - Good running cond, good tires. Asking \$300. 732-8751 after 5.

AUTO AC UNIT - For V8 eng, \$25. Ext. 3898.

69 OLDS 98 - Ps/pb/ac, high mi, but good running cond. Les, Ext. 4074.

AIR FILTER - Lee #AFL-52, for most Chrysler Corp, 6 cyl, 1960-72. \$1. Joe, Ext. 4212/4640.

74 MG MIDGET - Mint cond, 21,000 mi, 5 Perelli radials, all tops, am/fm stereo speakers, like new. \$2500 firm. 281-5385.

75 HONDA - CB360T, 1300 mi, 5 months old, sissy bar & crash bar, 5 months old, show room cond. \$1000. 744-4105.

70 DODGE SWINGER - 2 dr, 6 cyl, auto, excel running cond. \$900 or best offer. 281-4178 after 6.

SNOW TIRE - 650-13. \$19 w/rim. 744-5871.

69 FORD FAIRLANE - Auto, ac, 6 cyl, new brakes, carb, batt, inspection, good trans, 21 mpg. \$800. Bob, Ext. 2060, 234-2695.

SNOW TIRE - E78-14, new, not on rim. \$10. 698-5818 after 4:30.

67 FORD GALAXIE - Ps, 2 dr, 17 mpg, good trans, reasonable price. 286-1091.

73 VEGA HATCHBACK - Low mi, moving, must sell, best offer. 475-0364.

65 OLDS DELTA 88 - Auto, ps/pb, r/h, trailer hitch, 4 good tires, 2 snows, good working order. Asking \$250. 751-1521 after 5.

2 SNOW TIRES & RIMS - Buick size. \$20. 929-6932.

68 VW - Black, new eng, radial tires, radio, very good cond, pass inspection. Asking \$625. Sanchez, Ext. 3354, 698-3145.

VW TIRE RIMS - 5-hole, \$6/pr. Bill Sanchez, Ext. 3354.

Boats & Marine Supplies

PORTO POTI - Marine, self-contained. Mike L, Ext. 3450.

19' MFG BOAT - Fiberglass w/1971 Johnson motor, 65 hp, elec start & power tilt, tilt trailer. \$1000. Will store for winter. 878-1895.

24' FIBERGLASS SLOOP - Twin keel Tylercraft, main, jib & Genoa, sleeps 4, 6 hp Evinrude outboard, fully equipped, many extras, excel sailboat for family cruising on Bay or Sound. Ext. 3039/3050, 744-2549 after 6:30.

ICE BOAT - Shingle, partially completed. Asking \$75. Joe, Ext. 4069.

16' LONESTAR - Fiberglass run-about, like new, hardly used. \$400. 734-6314.

CLAM RAKE HEAD - 22 teeth, 3". Mike, Ext. 4652.

26' LUHRS - V-8, head, outriggers, depth recorder, full canvas, etc. \$900. 281-6293.

30' 1961 LUHRS - 1970 Palmer 225, tuna tower, fly bridge, fighting chair, flushdown, AM & CB radios, Ratheon depth recorder, 2 ginpoles, stereo, etc. \$3,900. 281-6293.

Miscellaneous

DISHWASHING MACHINE - Sears, movable, butcher block, good cond. \$50. Ext. 2902, 567-2185.

RUG - 12x15, medium blue, \$35. 929-6932.

AIR CONDITIONER - 12,000 btu, 220 line, \$100; riding lawn mower, \$150. 929-6932.

BAR - Dry bar, white button tuft front, black top & shelves w/matching bar chairs. \$50. Chris, Ext. 4120.

COAT - Fall, good, size 14, \$8; pulldown light fixture, \$4; 2 plant hangers, \$3 ea; drafting lamp, clamp or bolt, \$18. 744-5871.

EASEL - New, \$6; fall coat, size 12, \$8; blue blazer, \$8; brown jeans, 32-30, \$5; blue pullover shirt, med, \$3. Ext. 3609.

AIR CONDITIONERS - 1 GE 6000 btu, \$85; 1 Philco 5000 btu, \$75. Both excel cond. Mal, Ext. 2953.

DINING RM SET - Maple tone formica, finish table & leaf, 4 maple chairs. 928-3863.

SERTA MATTRESS - Queen size, w/box spring & frame, excel cond. 928-3863.

DRESS/COAT SET - Butte knit, size 12, orange w/white stitching. \$25. 698-5818 after 4:30.

COCKTAIL TABLE - Pennsylvania House, dark pine, 48" long. \$35. 698-5818 after 4:30.

VINYL BOOTS - White, size 8 girl's. \$3. J. Olson, 289-8629 after 7.

TYPEWRITER - Manual, office models, 15" Remington, \$25; 18" Royal, \$35. Ext. 4058, 286-0436.

LAB OVEN - Stainless steel, 1' inside x 2' outside, controls to 500°F. \$55. Ext. 4058, 286-0436.

MOTORCYCLE JACKET - Ladies leather, Beau Breed, brown zip out fur lining, size 11, worn once. \$55. Ext. 4485, 281-7529 eves.

TENNIS RACKETS - Wilson T-2000M, Davis Imperial M, both excel cond. Rudy, Ext. 3403, 751-3883 after 6.

WASHER & DRYER - \$125 for both; portable sewing machine, \$45. 878-9022.

CASSETTE TAPE RECORDER - TEAC 160, excel cond w/Dolby. Mike, Ext. 3198.

BRIGGS - 2.5 hp engine, vert shaft, good cond, w/beat up rotary mower that still cuts grass. \$15. Jack, Ext. 4087.

3 SPD BICYCLE - Girl's 26", \$20. Charlie, Ext. 4691, 265-9378.

AQUARIUM - 20 gal, stand, dyna-flo filter, 30 lb gravel, stow-away light, heater, etc. \$50. Frenchy, 472-1875.

WASHER - Sears Kenmore, runs well. \$75. 821-0250.

POTATOES - 50 lb bag, \$1.50. Izzy, Ext. 3696.

WHEEL CHAIR - Colson, like new, adjust/collapsible, cost \$250, will accept \$175; commode, same cond, cost \$40, accept, \$25. Frank, Ext. 2048.

2 LAWN CHAIRS - Aluminum, plastic webbing, wooden arms, almost new. \$4 each. 929-4624.

ALUMINUM S/S WINDOW - Fits window opening approx 56"x29", excel cond. \$10. 929-4624.

GUITAR - Vargas, 6-string w/case, pitch pipe, music books, new, never used. John, Ext. 4661.

WELL PUMP - Burks, 110 or 220 volt w/glass lined tank. 653-4571 after 5:30.

B&W PORTABLE TV - Good cond. 653-4571 after 5:30.

MOTOR CAR RACING SET - Aurora model, HO scale, 25' of double track, spirals, crossovers, bridges, etc, 4 cars. \$20. MacKenzie, Ext. 4490, 286-0999.

DESK/BOOKSHELF COMBINATION - Wall hung. \$25. Ext. 2041.

TANDEM BIKE - W/new tires. \$60. 751-2740 eves.

PORTABLE TYPEWRITER - Royal, excel cond, extra keys for sq root, cube root, pi, greater than, less than. \$65. Bob, 345-4201.

DINING ROOM - French Provincial fruitwood, table, 6 chairs, buffet. \$300. 543-0079 after 4.

LEISURE SUIT - Boy's 12-14, light blue, double knit polyester, like new, \$8; boots, big boy's 7D, blue suede & denim, good cond. \$6. 929-4425.

RECORDING TAPE - Scotch brand, low noise 202, 1.5 mil polyester on 10" alum reels, 50 reels, \$4.50/reel or best offer. Bob, 744-3361.

DINETTE SET - 4" round wooden wrought iron w/5 vinyl swivel chairs. \$200. Ext. 2016, 286-0716.

DROP LEAF TABLE - Chippendale style, 42" wide w/3 leaves & pads, opens to seat 14. Joan, Ext. 2016, 286-0716.

ANTIQUES - Picture frames, mirrors, tables, dry sink & more. Joan, Ext. 2016, 286-0716 after 6.

MISC HOUSEHOLD ITEMS - & furniture, bunk beds, dressers (4), book cases, beds & what have you. Joan, Ext. 2016, 286-0716 after 6.

BIRD CAGE - W/chrome floor. 286-9158.

CHURCH PEW CUSHION - Brown velvet, 8'6"x14"x3". 286-9158.

ELEC DEEP FAT FRYER - 4 slice toaster; Hoover upright vacuum cleaner. 286-9158.

KITCHEN SINK - Lawn roller, cheap. 286-9158.

7' POOL TABLE - Jordan, cues, balls, rack, \$70. Ext. 4203, 751-0835.

PAJAMAS - Dr. Denton, sizes 6 mos - 7 yrs, \$3 & \$4; also children's misc clothing, new at reduced prices. 732-2664.

SHOES - New men's 9M, \$13; new shirts, men's, 15-33; 15-34; \$3 each. Ext. 3609.

ATTENTION ARTISTS - Good buy, assorted canvases, 6x8, 7x9, 8x10 & 9x12. Ext. 3609/4172.

CAST IRON RADIATOR - 4 1/2', good for old house heating. \$35. Ext. 3898.

Ads left out of this issue because of lack of space need not be re-submitted in order to run in next week's issue

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

BROOKHAVEN HAMLET - Apt in older country home, large living rm, kitchenette, bedrm bath, furnished, util incl, mature adults preferred. 286-0129.

FURN RM - Use of kitchen & laundry, util incl, 15 min to Lab. \$40/wk. Jack, Ext. 4255.

N SHIRLEY - 2 brand new 3 bedrm apts, 1 for single male to be shared w/owner, other w/6 month lease or 1 yr. \$350/mo + util. Alvin Kanofsky, Ext. 3857.

2 STORY APT - Prime location, separate entrance, fully furn, large bath, modern kitchen, lg living rm, bedrm on 3rd floor w/view of Carmans River, young couple preferred or single person. Box 277, Brookhaven, NY 11719.

VERMONT - Ski, Bromely, magic, Stratton, x-country, ski on grounds, beautiful furn chalet, stone fp, week-end, weekly & share season rates. 757-5599.

ROXBURY NY AREA - Furn 12 rm for winter ski season, near several ski centers. (607) 326-7761.

BELLPORT - 3 bedrm modern house, avail Jan-June '77, sabbatical leave, water view, all appl, furnished, reasonable rent. 286-1091.

VERMONT VACATION - 3 bedrm mobile home w/fp, located on 10 acres, 10 min from Okemo Mt, close proximity to 7 other ski areas, avail weekly or week-ends. 473-8186 after 6.

For Sale

SHOREHAM - 4 bedrm contemporary, 2 1/2 baths, full basement, balcony w/water view, treed 3/4 acre, beach rights. \$65,000. 744-2268 after 5:30.

N SHIRLEY - 4 yrs old, high ranch, 4 bedrms, 2 full baths, panelled family rm, oil heat, 1/2 acre, 2 sheds, am/fm radio intercom system through house, rented w/excel tenant & pays \$300/mo. Asking \$38,500 or \$17,500 over mortgage. 878-9022 after 5.

PATCHOGUE - Roe Blvd area, 2 bedrm stucco colonial, lv rm, w/fp, dining rm, kitchen, 1 1/2 baths, full basement, detached 2-car garage, all appl, w/w carpeting. 289-5433, Ext. 4841.

SETAUKET - 4 bedrm colonial, 2 1/2 baths, must see. \$53,000. 751-8918 after 5:30.

PATCHOGUE - 3 bedrm ranch, expansion attic, finished basement, most appl, country kitchen, attached garage, exterior maintenance free. \$34,000. 475-7094, Ext. 2290.

E PATCHOGUE - 4 lg bedrms, spacious living, fp, lg kitchen, 2 baths, 2-car garage, s/s, ac, 160x237 partially wooded lot. 475-6916.

FLORIDA HOME - Near Ft Myers/Cape Coral, 3 yrs old, 2 bedrms, 2 baths, lg living rm, lanai, garage, central air & heat. \$33,000. Richie, Ext. 4254, 734-7342.

WADING RIVER - Lovely 1/2 acre wooded lot, 3 bedrm, lg 2-car garage, full basement, fireplace, private beach, washer/dryer/freezer. \$38,500. Al, 292-6940, Ext. 3535.

Classified Ad Policy

Deadline is 12 noon Monday for publication Friday of the same week.

- The Brookhaven Bulletin's classified section may be used only by active and retired Laboratory employees.
- All items for sale or rent must be the advertiser's property.
- Ads for material acquired for resale in association with a full or part-time business cannot be accepted.
- Firearms offered for sale or trade may not be brought on site.

- Ads not carried because of space restrictions will be held for publication in the next issue.
- Ads are run only once and must be resubmitted if they are to be repeated.
- Ads should be restricted to 20 words or less and typed or printed on the form provided, and must bear the employees signature.

- For Sale: Auto & Auto Supplies
 For Sale: Boats & Marine Supplies
 For Sale: Miscellaneous

- Wanted
 Carpools
 Lost & Found
 Services

Check the heading applying to your ad. Print or type your ad in 20 words or less.

Ads concerning 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, Room 111, 40 Brookhaven Avenue.

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

Send to: Brookhaven Bulletin, Building 460, 40 Brookhaven Avenue (Ext. 2345).