BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

Lab's Budget for Fiscal Year 1995 Marked by Uncertainty

Since President Clinton forwarded his budget request for fiscal year 1995 (FY95) to Congress in February, concern has been mounting among BNL employees as to how that translates into FY95 funding for the Laboratory.

If the presidential budget as it pertains to Brookhaven remains unchanged, the Laboratory would receive total funding of $432 million from the U.S. Department of Energy (DOE) and other agencies in FY95 — about $32 million less than the FY94 funding level, but on par with cuts nationwide.

These funding levels include deep cuts in the Laboratory's major programs. Right now, the only significant increase in Brookhaven's budget is for technology transfer, where funds are expected to increase by $3.8 million, a doubling of the program.

BNL Director Nicholas Samios summarized the impact on BNL due to the presidential budget funding levels: "Our initial assessment indicated we would lose 170 to 200 full-time employees. However, we now estimate that — with attrition and by not filling some replacement personnel requisitions — a reduction in force of approximately 140 people will be required. Based on previous experience in asking for volunteers for layoffs, we believe the number of involuntary reductions will be approximately 90 employees."

While the Laboratory is hopeful that fewer involuntary reductions, or layoffs, may be necessary, Samios said, "Historically, the funding level for BNL's operation, earmarked by DOE under the President's Budget, has been conservative, and, in each of the last 18 years, BNL has been awarded more operating funds in total than originally designated. This year, however, may be different: There is tremendous pressure to reduce the FY95 budget, and there is extreme uncertainty whether or not additional funds will be made available for our programs."

Thus, Brookhaven has submitted revised requests asking for reconsideration of most allocations, while recognizing that a number of those requests may be refused. With that possibility in mind, said Samios, "We must approach the problem realistically. As hard as it is to prepare for reductions in force, we must."

The final numbers will not be ascertained until Congressional action is completed — probably by this fall — but it is clear that there will have to be some layoffs before then. The Laboratory will seek to reduce the impact by accepting volunteers for reduction in force, where possible.

High energy physics is the budget category most deeply affected by the budget now proposed for FY95, earmarked for only $60 million, down about $6.5 million from the current fiscal year. This will severely impact the staffing of two departments: Alternating Gradient Synchrotron (AGS) and Physics.

In the AGS Department, the proposed budget would permit only a 5-week running schedule. However, in order to maintain a viable science program, the AGS must run high energy physics for at least 12 weeks. To reach this running level, a reduction in force will be necessary. In its revised request for FY95, BNL has asked that the AGS be restored to a full 25-week high energy physics program, in addition to the four weeks already allocated for heavy-ion operation.

This request also asks for restoration of funding for the High Flux Beam Reactor. While the proposed budget would allow the reactor to operate at its current level of eight cycles at 30 megawatts, it would not provide enough support for other required operations.

Under the President's proposed budget, the National Synchrotron Light Source would be able to operate at the full 40-week schedule necessary to support the research program, but the very constrained budget would result in the loss of some personnel.

Congressional and Presidential support for BNL's Relativistic Heavy Ion Collider (RHIC) remains strong, and the project is slated for construction funding for FY95 at the planned level of $70 million. However, with magnet research and development nearing completion and since the magnet production effort requires a smaller staff, some reductions in the RHIC magnet program will be necessary.

In other departments, reductions are expected to be small, while the balance would be distributed among the Laboratory's overhead and service areas.

Although layoffs will take place over a period of months, notification of affected employees will begin by early this summer. Further information about the reductions in force or changes to BNL's FY95 budget picture will be reported in the Bulletin.

— Anita Cohen

BNL Publishes Annual Report Assessing Site's Environment

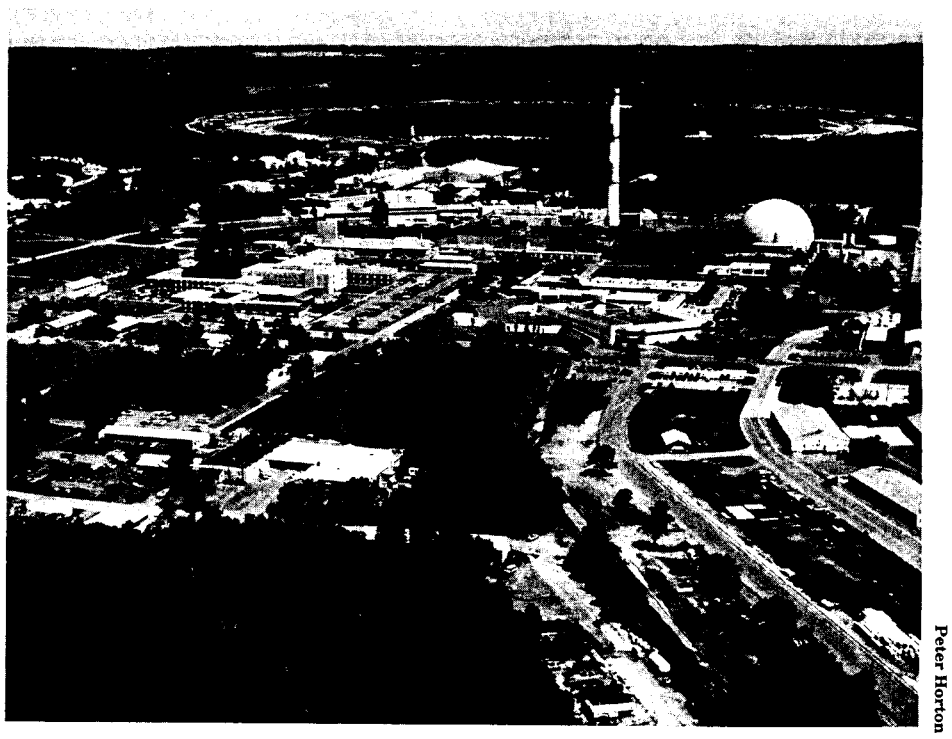
The 1992 Site Environmental Report for Brookhaven Lab is now available. Prepared by Jan Naidu, Barbara Royce and Bob Miltenberger of the Safety and Environmental Protection (SEP) Division, the report provides an assessment of the Lab's impact on the environment and presents the results of BNL's environmental monitoring program for calendar year 1992.

Says Naidu, who is responsible for producing the report, "Since BNL's earliest days, the Lab has had a proactive environmental monitoring program designed to assess the impact of the Laboratory's operations on the surrounding environment. In addition, we monitor effluents to determine whether discharges to the environment are maintained within release limits specified by applicable environmental standards or state and federal permits."

Data are gathered for external radiation levels; radioactivity in the air, rain, surface water, groundwater, potable water, soil, vegetation, and aquatic plants and animals; and metals, organics and petroleum products, as well as overall water quality, in surface water, groundwater and potable water.

The report is a cumulative effort principally by the SEP staff, with contributions from the Office of Environmental Restoration. It takes about a year to produce, a process that includes collecting samples, analyzing data, writing text, compiling figures and completing the review process for publication. The U.S. Department of Energy's Chicago Field Office and the agency's headquarters in Washington, D.C., review the report.

The 1992 report has already been distributed to the Suffolk County Department of Health Services, the New York State Department of Environmental Conservation, the New York State Department of Health, the federal Environmental Protection Agency and the U.S. Department of Energy. Employees and members of the general public may obtain a copy at the Public Affairs Office, Bldg. 134.



Peter Horton

The recently published 1992 Site Environmental Report assesses the Lab's impact on the environment of the BNL site.

The Brookhaven Site

The Lab is located close to the geographic center of Suffolk County and encompasses about 2,120 hectares (5,300 acres). Only 680 hectares (1,700 acres) of this property have been developed to accommodate the 360 buildings and facilities that sit on the central campus; the rest of the site is undisturbed woodlands.

BNL uses about 15.2 million liters (4 million gallons) of groundwater each day to meet potable water plus heating and cooling requirements. The Lab has a water-treatment plant and a sewage-treatment plant.

Like most eastern seaboard areas, the site is well-ventilated. The prevailing ground-level winds are from the southwest during the summer, from the northwest during the winter, and about equally from these two directions during the spring and fall. The Lab receives about 122 centimeters (48 inches) of rain each year, with about half of this being absorbed into the ground to replenish groundwater and the other half evaporating.

Groundwater flow in the vicinity of BNL is controlled by many factors. In general, however, groundwater in the northeast and northwest sections of the site flows toward the Peconic River. On the western portion of the site, groundwater tends to flow toward the south. Along the southern and southeastern sections of the site, the groundwater flow tends to be toward the south to southeast.

1992 Report Summary

• **Airborne Releases** — Most of the airborne radioactive effluents originate from four facilities used to conduct medical or physical-science research — the High Flux Beam Reactor, Medical Reactor, Brookhaven Linac Isotope Producer and Tandem Van de Graaff. The predominant radionuclides released were argon-41, oxygen-15 and tritium. Combined, these radionuclides produced a radiation dose of about 0.1 millirem at the site boundary, which represents a 0.1 percent increase above natural back-

(continued on page 3)

Coming Up

Lila Wallis, Clinical Professor of Medicine at Cornell University Medical College, will present a lecture on "Women and Heart Disease" on Tuesday, May 10, at noon in Berkner Hall. Sponsored jointly by Brookhaven Women in Science, BNL's Medical Department and Upjohn Corporation, Wallis's talk will focus on the risk factors, symptoms and treatment of heart disease. All are invited to the lecture and to join the lecturer at an on-site luncheon. For the lunch, send a check for $20, payable to Brookhaven Women in Science, to Jean Howard, Bldg. 490, by Friday, May 6.

Leaving the Lab — After 35 Years or More

The Bulletin salutes employees who are retiring with 35 or more years of service to the Laboratory.

Martha Heine

"For 30 years, I was known as 'the rat girl'," declared Martha Heine, "and during all that time, I was very proud of the fact that *no* animals were treated inhumanely."

Heine, who retires today as a scientific associate in the Safety & Environmental Protection (SEP) Division,

Roger Stoutenburgh

Martha Heine

was remembering her total of 37 and a half years at BNL. She joined the Medical Department as a technician on October 8, 1956, and, for 19 years, worked with Medical's Lewis K. Dahl, a pioneer in hypertension research.

"Nowadays, the relationship between high salt intake and hypertension is taken for granted — but that's largely due to Dahl's work," said Heine. "To do his research, one of our first big steps was to develop two strains of rats, which we bred selectively through many generations, so one group became sensitive to salt-induced hypertension, while the other was resistant to it. These rats were used to study the part salt plays in hypertension."

Heine's devoted contribution to this work was acknowledged by her boss in a somewhat unorthodox way. "We were at a medical seminar," she recalled, "when Dr. Dahl, as head of the hospital and research group, announced that he and I had been carrying on an extensive breeding program at all hours! He knew how to get the audience's attention!"

Heine explained that whether one gets hypertension from salt depends to a large extent on one's genetic constitution. Studies showed that high salt intake is much more dangerous in early years, and that even a moderate high-salt intake may trigger hypertension in sensitive individuals. With these findings, Dahl alerted the medical profession and the general public to the danger of adding salt to baby foods.

Heine looked after these unique Dahl rats until 1988, when they were taken over by a commercial firm as a valuable resource for hypertension research. By this time, after nine promotions, she had been a medical associate for eight years. Then, her work with the rats concluded, she moved to SEP as a scientific associate, to do asbestos analysis.

"That was quite a challenge," emphasized Heine. "No one at BNL had specialized in this work, so I was a pathfinder."

Heine found the right way, and in a few months had created an asbestos analytical lab that was accepted by the accreditation committees of the American Industrial Hygiene Association and the National Voluntary Laboratory Accreditation Program. After 1991, Heine left the asbestos field to perform groundwater monitoring tests.

Although this is Heine's last work for BNL, her expertise in environmental concerns will soon be put to use — near Raleigh, North Carolina, where she has bought 20 acres of organically maintained land surrounded on three sides by Lake Kerr.

She will not be lonely — living with her mom and sister nearby, and the geese, chickens and assorted wildlife that go with the land. She will also get a second German shepherd and a Chincoteague pony, the "eastern mustang." As a foal, her first such pony, Chincoteague Folly, made the journey up from Virginia in 1958 in the back seat of her Plymouth sedan. "I broke him to harness and saddle, but he was never *tame*," explained Heine. "He could unseat a 200-pound man if he wanted to."

Travel will be no problem for Heine as she plans to make trips in her "white elephant," the name given to her large, white motor home. "The Lab has been the focal point of my life for many years," said Heine, "but now, I'm looking forward to this new part of my life with great excitment. Once I've sold my house and three-and-a-half acres in Brookhaven Hamlet, I'll be off!" — Liz Seubert

Ralph Weston

In 1951, Ralph Weston moved from the nation's oldest institution of higher learning to one of the newest, by trading his postgraduate status at Harvard University for a position as an associate chemist in the Chemistry Department of the four-year-old Brookhaven National Laboratory.

When Weston arrived at the Lab on September 17, 1951, the Chemistry Department was still housed in a chain of wooden buildings located near the present Personnel Division, Bldg. 185.

But Weston — who retires tomorrow after 42 years at BNL — said he was not attracted to Brookhaven by the buildings: It was the science that drew him here, in particular a paper on preparing isotopically labeled nitrous oxide, written by Chemistry's Jake Bigeleisen and Lewis Friedman. Weston came to work with Bigeleisen on isotope separation, specifically to study the effects of isotope substitution on chemical equilibria and reaction rates.

Bigeleisen, Weston said, "was very good about letting me have some independence," so the young chemist, who had earned his Ph.D. in chemistry at Stanford University in 1950, applied isotope effects to unraveling the detailed mechanisms of chemical reactions, including the transition state and some of its characteristics. He was promoted to chemist in 1955 and senior chemist in 1965, and he received tenure in 1957.

But Weston's research took a turn in the early 1970s. "I got into the laser business, almost by accident," he said, when the Atomic Energy Commission (AEC), a predecessor to the U.S. Department of Energy, became interested in using laser photochemistry to separate isotopes, such as uranium. With AEC funding, Yeshiva University provided personnel and Chemistry provided lab facilities.

With laser equipment and expertise on hand, Weston recognized the possibilities in applying both to his research. He began working with George Flynn, professor of chemistry at Columbia University, whose Brookhaven connection originated in an earlier collaboration with Norman Sutin, now Chemistry Department Chairman. "Over the years, we have continued to collaborate, along with Jack Preses and postdocs," Weston said. "It's been a very fruitful combination for me."

Essentially, Weston and his colleagues have used lasers to study various kinds of collisional energy transfer, "a very important process in the scheme of chemical reaction processes," he said. "Typically, molecules don't react unless they have some energy above normal. We're interested in how they get that energy to start the reaction and how they lose it. The short pulses of radiation that lasers emit produce en-

Roger Stoutenburgh

Ralph Weston

ergetic molecules that we study."

Weston's scientific career has indeed been fruitful, resulting in over 100 publications in scientific journals and a book, *Chemical Kinetics* (Prentice-Hall, 1972), which he coauthored with Harold Schwarz.

Weston's research has often been combined with administrative duties: He was named Assistant Department Chairman in 1974, then Associate Department Chairman in 1979, In October 1981, he began a four-month stint as Acting Department Chairman, becoming Deputy Department Chairman in 1982. He returned to his senior chemist duties full-time in 1988.

In retirement, Weston does not expect his schedule to slow down: In the immediate future, he'll be back to see Chemistry's Visiting Committee in May, then he'll address the Combustion Research Conference in California, in June. After that, he plans to work at BNL as a research collaborator "for long stretches at a time."

And he's very excited about branching out to another area of chemistry. "I've always been interested in some aspects of atmospheric chemistry," Weston explained, "and, in 1974, when Rowland and Molina revealed the worrisome effect of chlorofluorocarbons on the ozone layer, it interested me as a chemical kinetic problem. So, I have been in contact with the Environmental Defense Fund, and I hope to do some work for them — perhaps writing or computer modeling."

Weston's home base will continue to be Brookhaven Hamlet, where he lives with his wife Jinny, who worked in BNL's architectural planning office until their first daughter was born in 1953. Now the Westons plan "to visit our three daughters and five grandchildren, in Boston, Philadelphia and Grass Valley, California, more often than we have."

Weston will also continue the choral singing he has enjoyed since 1981 with the Long Island Masterworks Chorus, where he sings baritone. He also performs with the Bay Area Friends of the Fine Arts Chorus.

Looking back over his years at BNL, Weston said, "There certainly have been tremendous changes. Some were physical — from the crude facilities of the early years to the sophisticated experiments of today; some were social — the Lab was so isolated in the early days that it served more as the community for employees than it does today."

And other changes have been philosophical: "I worry about the tremendous emphasis on technology versus basic science," Weston mused, "and what the ultimate result of this will be on places like Brookhaven and scientific research in general."

But one thing hasn't changed — the caliber of the Lab's people. "I've always been fortunate to have good colleagues, good scientists to work with," Weston said, "people at the cutting edge of science." — Anita Cohen

Garden Plots

With spring weather finally here, it is time to garden. Sixteen 10-foot-square plots have been set aside in the apartment area for on-site residents to grow their own flowers and vegetables. Gardening equipment will be available. To secure a plot and a key to the room where the gardening tools are kept, call Petra Lang, Ext. 1029.

Arrivals & Departures

Arrivals

John Spiletic ..... Comp. & Comm.

Departures

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

Soren M. Gantt ..... App. Science
Thomas S. Malinowski ..... SEP

In Memoriam

Muriel Kolomick, who retired from the Lab in August 1993, died on April 22, at the age of 69. She first came to BNL on April 23, 1976, as a secretary III, working in the secretarial pool of the Personnel Division. She joined the permanent staff of the Applied Mathematics Department as a secretary, on June 14, 1976. When she retired, she was a senior administrative assistant in the Computing & Communications Division.

Archery Club

The Archery Club will hold its monthly meeting on Thursday, May 5, at noon, in the large seminar room, Bldg. 510. New members are always welcome. For further information, contact Bill Schoenig, Ext. 2377.

Service Awards

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

35 Years

Dennis D. Greenberg ..... Medical
Martin S. Zucker ..... Adv. Tech.

30 Years

Leonard D. Hamilton ..... App. Science
Raymond H. Mayo ..... Plant Eng.
Jack Van't Hof ..... Biology

25 Years

Georgia Irving ..... Dir. Off.
Cornelius Jackson ..... Phot. & G.A.
Jeanne R. Wysocki ..... Biology

20 Years

Doris M. Alkes ..... Tech. Info.
Edward J. Brosnan ... Comp. & Comm.
Walter Y. Kato ..... Adv. Tech.
William Marin ..... Phot. & G.A.
Richard K. McMullan ..... Chemistry
Edith E. Thornhill ..... Personnel

10 Years

John J. Addessi ..... AGS
Mark C. Davis ..... Reactor
Kathryn J. Lancaster ..... Adv. Tech.
Steven Tepikian ..... RHIC
Robert Tooker ..... Sup. & Mat'l.
See-Meng Wong ..... Adv. Tech.

Site Report (cont'd)

ground radiation in Suffolk County. These releases were within all state and federal limits.

Radiation dose to individuals is usually expressed in "rem." A "millirem" is a thousandth of a rem. As an example, natural background radiation in Suffolk County is about 100 millirems. Natural background radiation comes from the sun and outer space, as well as from naturally occurring radioactive materials present in the earth, in housing materials and in food and water.

In addition to radioactive releases, non-radiological effluents were generated from about 70 New York State-permitted discharge points. These releases included combustion products from burning fuel to operate the Lab's central steam facility, plus emissions from small-scale grinding, welding and painting operations. All releases were within the state permit limits.

• **Liquid Discharges** — Liquid discharges from Lab operations are released to the environment either as surface-water releases to the Peconic River through the sewage treatment plant or as direct releases from certain facilities to one of seven recharge basins on the property. These discharges are monitored quarterly, and all are subject to the requirements specified in a New York State permit for the site.

Of the seven release points, Lab operations in 1992 had no impact at six locations, as they were well within the State Drinking Water Standard. The seventh release point had elevated iron concentrations, and the discharge is filtered to meet the New York State groundwater effluent standard.

The discharge from the Lab's sewage treatment plant to the Peconic River is monitored daily, with downstream on-site measurements made weekly and downstream off-site measurements taken at wider intervals. In 1992, a single measurement of high fecal and total coliform bacteria, in excess of what is permitted, may have been due to an error by an off-site analytical laboratory, whose results were considerably higher than other off-site laboratories analyzing the same sample. Except for that one ambiguous occurrence, BNL's radiological and non-radiological discharges met the state permit release limits and the Lab's more stringent administrative limits.

• **Groundwater** — Groundwater is monitored for radiological and non-radiological parameters at over 150 locations on site and at over 20 locations off site.

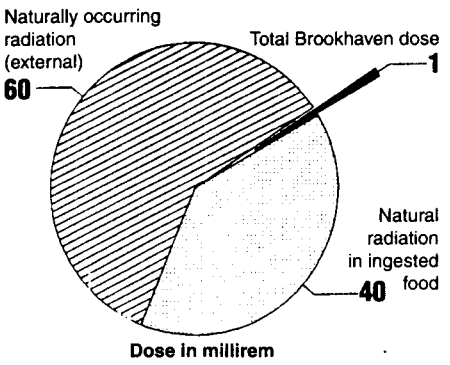
In 1992, samples taken on site at locations down-gradient of past waste disposal sites, the current waste handling area and previously identified spill sites continued to show radiological, metals and/or organic compounds present in these areas, in some cases above the State Drinking Water Standard. These areas are being investigated and will be remediated as part of the Lab's Superfund activities.

"Employees should note," says Naidu, "that our drinking water on site does not come from wells in these areas. Further, the Lab's drinking water is monitored routinely to make sure that it meets the standard."

The off-site sampling program, conducted in cooperation with the Suffolk County Department of Health Services, includes quarterly sampling of over a dozen private wells at residences close to the Lab site.

In 1992, trace amounts of tritium, a radioactive isotope of hydrogen, were detected in three wells, at concentrations well within the State Drinking Water Standard. A fourth private well showed organic constituents above the standard, but the well is equipped with a carbon filtration unit so that water supplied to the residence meets the standard.

• **Soil and Vegetation** — Soil and vegetation in local farms situated around the Lab site were sampled in June 1992 as part of a cooperative program between BNL and the Suffolk County Department of Health Services. No contaminants attributable to BNL releases were detected in any of the samples.



Annual radiation dose to an individual due to natural background radiation and BNL operations.

• **Fish** — In collaboration with the Fisheries Division of the New York State Department of Environmental Conservation, BNL has an ongoing program to collect fish from the Peconic River and surrounding fresh water bodies. The fish are analyzed for radioactivity to determine impact of liquid discharges to the Peconic River.

Based on the sampling for 1992, a person who ate a year's total of 6.75 kilograms (15 pounds) of fish from the Peconic would receive an estimated dose of 0.87 millirem. This represents a 2.2 percent increase above the internal radiation dose that a person receives each year from naturally occurring radioactive material normally found in a daily diet.

To Conclude . . .

In summary, Naidu says that if a person lived at the site boundary, ate fish from the Peconic River and drank well water from the area, the only projected impact from the Lab's operations would have been a small increase in radiation dose.

For 1992, that hypothetical individual would have received, at the most, an additional 1 millirem. This represents about a 1 percent increase in the radiation dose that a person receives from natural background radiation here in Suffolk Country and is 0.2 percent of the New York State limit for the general public.

In comparison, naturally occurring radionuclides in foods contribute an internal dose of about 40 millirem each year to an individual. For example, eating a banana a day contributes a dose of 2-3 millirem a year, from potassium-40. — Mona S. Rowe

Blume Responds to NY Times

On April 21, BNL Deputy Director Martin Blume sent the following letter to the editor of the Long Island Weekly section of *The New York Times* in response to the story entitled "Brookhaven Reactor Fire Raises Questions on Nuclear Hazards," by John Rather, which was published on Sunday, April 10, 1994.

John Rather's story on the recent fire at Brookhaven National Laboratory discusses many side issues that he attempts to connect to the fire, which took place at an experimental area within a building that houses a research reactor.

Among the irrelevant references, the most irresponsible is the claim by Ernest Sternglass, a retired professor of radiology at the University of Pittsburgh, that higher-than-normal breast cancer rates in towns within 15 miles of the Lab might be linked to radiation releases from BNL.

Dr. Sternglass has coauthored an unpublished paper on this subject, and it is seriously flawed.

For example, he divides Suffolk County into three parts: a central region consisting of those communities supposedly within about 10-12 miles of the Lab, a region to the east, and a region to the west. He claims that the central region has a significantly higher breast cancer incidence than the eastern region and a slightly higher incidence than the west.

Is this proof that breast cancer in the central region is caused by radiation from Brookhaven Lab?

Absolutely not.

Incredibly, Dr. Sternglass's data reveal that he doesn't know where Brookhaven National Laboratory is located. We are in Upton, which he lists as being in the eastern, low-cancer-incidence region.

Further, at the Lab, prevailing winds generally blow toward the east and groundwater flows generally to the east and south. If there were any effect from Lab emissions to the air or groundwater, it would be seen at the Lab and in towns directly to the east of BNL.

Dr. Sternglass's own data refute his claim. The towns he lists as being in the central, high-breast-cancer-incidence region are west of BNL, and hence, upwind and upstream and unlikely to be affected by the Lab.

No one knows for certain what causes breast cancer. Age, family history, lifestyle and the environment are all possible risk factors.

By going public with unsubstantiated claims, Dr. Sternglass loses credibility and can expect criticism from the scientific community for his bad science.

Food Labels Explained

As of May 8, all cans, boxes and other packages of food will be required to have the same "nutrition facts" food label. While the label is easy to read, understanding what that information means and how it relates to your daily diet may be another thing.

So, "Understanding the New Nutrition Facts" will be discussed by registered dietitian Lydia Genovese at the next meeting of the BNL Walking Club, on Thursday, May 5, from noon to 1 p.m. in Berkner Hall. All are invited. To register, send a note with your name and extension to Mary Wood, Bldg. 490.

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ANITA COHEN, Editor
MARSHA BELFORD, Assistant Editor

Bldg. 134, P.O. Box 5000
Upton NY 11973-5000
Tel. (516) 282-2345; Fax (516) 282-3368

Summer Science Interns Available

As part of the Community Summer Science Program (CSSP), BNL offers afternoon internships for students in the summer following their junior or senior year in high school.

CSSP interns participate in BNL's research programs under the direction of Lab staff members, usually each afternoon for six weeks. The internships carry a stipend, at no cost to the sponsor's department, and run from July 11 through August 19.

The Office of Educational Programs (OEP) reports that the number of strong math and science students applying for CSSP internships has nearly doubled this year. Anyone interested in sponsoring a CSSP intern may review the 1994 applications during working hours, from Monday, May 2, through Thursday, May 12, in the Science Education Center library in Bldg. 438.

For more information, call OEP, at Ext. 4503.

Note to Employees:

Attendance at lectures, meetings and other special programs held during normal working hours is subject to supervisory concurrence.

ANS Meeting

Congressman George Hochbrueckner will speak at a luncheon meeting of the Long Island Section of the American Nuclear Society (ANS), on Monday, May 9, at the Brookhaven Center. He will give an update from Washington on high-technology issues, then answer questions.

BNL Director Nicholas Samios will introduce Hochbrueckner at the luncheon, which is scheduled to start at noon. For reservations, call Jeanne D'Ascoli, Ext. 2277.

Atlantic City Trip

A few seats are left for the BERA-sponsored, one-day trip to the Claridge Hotel and Casino on the Boardwalk in Atlantic City on Saturday, June 18.

The bus will leave the Brookhaven Center at 9 a.m., with an extra pick-up at the LIE Exit 63 park and ride, if requested; return will be at approximately 11:45 p.m. The cost will be $22, but the hotel/casino gives a $10 coin return. Tickets are on sale now at the BERA Sales Office, Berkner Hall.

For information, call Andrea Dehler, Ext. 3347; Rosalie Piccione, Ext. 3160; or Kay Dellimore, Ext. 2873.

Astronomical Society

A phenomenon known as the "Ring of Fire" should be visible on Tuesday, May 10, at about 1:36 p.m., when the rim of the sun will show up behind the moon in an 89 percent eclipse. All are invited to take a late lunch to the on-site observatory, where the BNL Astronomical Society telescope will be set up with a plate that will allow safe viewing. The eclipse should not be looked at with the naked eye.

Call Keith Power, Ext. 7772, for information or directions. Also, as for other meetings during work time, you must have your supervisor's permission to attend.

Hospitality Committee

The next Hospitality Committee get-together will be Tuesday, May 3, at 9:30 a.m., in the Recreation Building in the apartment area. This informal meeting will be a good time for newcomers to the apartment area to meet their neighbors, especially those who have lived on site for a while.

Spouses of Lab employees and guests are welcome. Bring the children, but also bring a toy or two. Coffee, tea and pastries will be served.

WordPerfect Users

The next WordPerfect Users Group will meet on Tuesday, May 3, from 10 to 11 a.m., in the CCD Seminar Room, Bldg. 515. Topics to be presented on WordPerfect 6.0 for Windows are tips on tabs, and importing and linking spreadsheets. New features in WordPerfect 6.0a will be demonstrated, if available. Seating is limited, so call Donna-Ree Rodriguez, Ext. 7261, for reservations and information.

Aerobic Dance

The next 15 weeks of the Aerobic Dance Club's aerobics and stretch classes will start May 2 and end the week of August 29. Stretch will be held Mondays in the Physics lounge, Bldg. 510, beginning May 2; aerobics will be held Tuesdays in the Recreation Building, starting May 3. Register at the first classes.

Each series costs $35 per person. For more information, call Pat Flood, Ext. 7886, or digital beeper 4011.

Basketball

April 21 Championship Game

Magic 95		Runaways 84	
Troy Mayo	38	Wayne Cummings	21
Terrence Buck	34	Pete Ratzke	16
James Rank	6	Ed Meier	14
Patrick Browne	5	Jim Desmond	12
Neil Donahue	4	Jerry Gaeta	9
Jim Garrison	3	Lars Furenlid	5
Raymond Jackson	3	Gerry Shepherd	5
Carlos Victoria	2	Bob Wells	2

Three-point shots: Buck (2), Meier (2), Cummings, Gaeta, Garrison, Mayo, Rank, Shepherd.

Volleyball

Congratulations to the following first-place teams:

Open League:	Roofing Co.
League I:	Rude Dogs
League II:	Monday Night Live
League III:	Jolly Vollies

A volleyball captains' meeting and election for new board members will take place on Wednesday, May 4, from noon to 1 p.m., in the large conference room, Bldg. 475B.

Bowling

Red/Green League

S. DiMaiuta bowled a 247/224/215/686 scratch series, E. Beadle 246/241/214/701 scratch, J. Goode 246, C. Bohnenblusch 243, R. Mulderig Jr. 239/201/635 scratch, E. Sperry IV 237/201/620 scratch, K. Koebel 233/202/610, R. Sick 226, R. Wiseman 220, G. Spira 219, H. Arnesen 217/215/214/646, R. Raynis 215/600 series, E. Larsen 211, K. Asselta 204, K. Riker 204.

Purple League

Eric Larsen bowled a 239, Ray Raynis 209, Tirre Farmer 203, Fred Schaefer 202, Denise Monteleone 180/179, Pat Bounauito 176, Linda Farmer 174, Paula Pozzoli 172.

White League

Ed Larsen had 239, Joe Mayeski 233, Mike Meier 213, Kevin Carney 213, Jim Petro 211, Joe Sheehan 206, L. Rocklein 199.

Cafeteria Menu

Monday, May 2	
Soup: Chicken noodle	.80/1.10
A la Carte: London broil w/mushrooms	3.65
Fitness: Sun-dried tomato & scallion pizza	3.35
Deli: Pastrami sandwich	2.95
Grill: Reuben platter	2.95
Tuesday, May 3	
Soup: Cream of mushroom	.80/1.10
A la Carte: Cod Vincenza	3.45
Fitness: Pasta w/marinara sauce	3.35
Deli: Viginia ham sandwich	2.95
Grill: Western omelet w/French fries	2.35
Wednesday, May 4	
Soup: Bavarian lentil	.80/1.10
A la Carte: Herb-crusted loin of pork	3.85
Fitness: Vegetable lasagna	3.35
Deli: Hot roast beef sandwich	2.95
Grill: Italian cheesesteak	2.95
Thursday, May 5	
Soup: Cream of spinach	.80/1.10
A la Carte: Deviled hen	4.00
Fitness: Spinach & feta quiche	3.45
Deli: Corned beef sandwich	2.95
Grill: Ham & cheese	2.75
Friday, May 6	
Soup: Seafood chowder	.80/1.10
A la Carte: Display cooking of Oriental entree	
Fitness: Baked flounder duxelles	3.75
Deli: Roast turkey sandwich w/gravy	2.95
Grill: Fried shrimp boat	3.25

Attn: Mambo Kings

Register now for the next beginners' session of dance lessons — mambo and fox trot — offered Wednesday from 6:30 to 7:30 p.m. by the BNL Ballroom, Latin & Swing Dance Club. Singles and couples, employees and retirees, and their dance partners, family and friends are invited to sign up — especially leading men.

The class starts on Wednesday, May 4, in the Physics lounge, Bldg. 510, and it will continue for six to eight weeks, depending upon how many join, at $20 per person. For more information, call Marsha Belford, club president, Ext. 5053.

Weight Management Group Forming

A group for employees interested in managing their weight using nutritional and behavior-modification principles is being formed. Sponsored by the Health Promotion Program of the Occupational Medicine Clinic, the group will be run by registered dietitian Lydia Genovese.

The group will focus on losing weight and body fat without dieting, by examining lifestyles, targeting goals, improving nutrition, acquiring healthier eating habits, and exercising.

The group will meet for six Mondays, noon to 1 p.m., starting May 9, and it is limited to 12 people. The cost per person is $90, payable at the first session. To register, first-come, first-served, contact Health Promotion Specialist Mary Wood, Ext. 5923, as soon as possible.

Classified Advertisements

Placement Notices

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

Each week, the Personnel Division lists new placement notices. The purpose of these listings is, first, to give employees an opportunity to request consideration for themselves through Personnel, and second, for general recruiting under open recruitment. Because of the priority policy stated above, each listing does not necessarily represent an opportunity for all people.

Except when operational needs require otherwise, positions will be open for one week after publication.

For more information, contact the Employment Manager, Ext. 2882, or call the JOBLINE, Ext. 7744 (282-7744), for a complete listing of all openings.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

NS 2763. MANAGER, ENGINEERING AND CONSTRUCTION SERVICES - Requires BS in engineering, MS preferred, comprehensive experience in engineering design and construction, and a minimum of five years' engineering management background. Will be responsible for the engineering, design and construction of all conventional construction projects undertaken by the Laboratory, including the selection of A/E firms and others engaged for these projects. Will direct the activities of architects, engineers and designers in the investigation, conceptual, preliminary and detailed design; and project management and field inspection of all assigned projects. Directs the planning, scheduling and cost estimating of assigned projects and provides engineering analyses, special studies and project status reports. Plant Engineering Division.

Motor Vehicles & Supplies

93 HYUNDAI SONATA - black, V-6, anti-lock brakes, p/sunroof, anti-theft stereo, tinted windows. Ext. 2459 or 287-3262 after 5 p.m.

92 ACURA INTEGRA - 26k mi., red, p/windows, sunroof, am/fm cass., 5-spd., alarm, ext. warr., mint, $13,500. Lora, 758-5957.

91 VW JETTA GL - Calypso green, 5-spd., extras, excel. cond., best offer. 874-2953, leave message.

90 PLYMOUTH SUNDANCE - ac, a/t, sunroof, 76k mi., must see, $4,990. Nancy, Ext. 4530 or 261-2719.

89 PONTIAC 6000LE - 4-dr., 94k mi., p/s, p/b, ac, a/t, am/fm, $3,000. Oleg, Ext. 4984.

89 VW CABRIOLET - convertible, ac, a/t, Blaupaunk, 58k hwy. mi., excel. cond., $9,500. 821-0686.

88 FORD ECONOLINE 150 - customized van, purchased new in 1989, 43k mi., 351 Cleveland engine, excel. cond., $10,500. Ext. 4030.

The Brookhaven Bulletin is printed on paper containing at least 50 percent recycled materials, with 10 percent post-consumer waste.

88 ISUZU TROOPER - 4-spd., 4wd, am/fm stereo cass., 69k mi., mint cond., $6,990. Donna, 924-5062.

88 ISUZU TROOPER - 4wd, 4-dr., ac, roof rack, rear def., am/fm cass., low mi., excel., $6,500. 722-3905.

87 CHEVY CAPRICE CLASSIC - 116k mi., needs work, asking $1,750. Billy, 874-3804.

87 HARLEY DAVIDSON - low rider custom, 6k mi., many extras, mint cond., asking $8,500. 758-2254.

85 LINCOLN MARK VII LSC - every possible option, runs well, lots of new parts, $3,000. 369-0943.

84 HONDA ACCORD - ac, c/c, p/s, 5-spd., stereo, good cond., dependable, $4,200. Susan, Ext. 2184.

84 TRANS AM - red, 5-spd., 76k mi., gar., p/w, p/l, T-top, ac, car cover, good cond., $3,800 neg. Alice, Ext. 2274 or 744-4835.

84 FIERO - balanced, blueprinted, engine competition cam, more, orig. owner, $1,700. Tom, 736-6993.

83 COUGAR - V-8, 5.0 l., gar., 90k mi., p/s, p/b, am/fm cass., ac, excel., ask. $1,450. Carter, Ext. 7599.

81 BMW 320i - sunroof, Sony Benzi cass., new tires, clutch, muffler, water pump, tight engine, 105k+ mi., $2,000. George, Ext. 5288 or 878-8177.

77 SHASTA CAMPER - 19', self-contained, sleeps 4-6, roll-out awning, Reese adj. load-level hitch, asking $2,000. Dan, 698-7322.

70 APACHE CAMPER - all hard-side pop-up trailer, sleeps 6, gas stove & heat, sink, lav., awning, excel. cond. Nicolellis, Ext. 4631.

68 PONTIAC LEMANS - collectible, all orig., 26k true mi., appraised at $5,500, 350 V-8, p/windows, $4,500 firm. Pandorf, Ext. 5251.

AIR CLEANER - K&N, 9"x3", chrome, never used, $30; Wincand X-celerator intake manifold, 2k-6.5k rpm, $85; carb., Holley 750 CFM, $75. Brett, 929-5343.

WHEELS - 2, w/tires, suitable as spares for Chrysler K car, make offer. Bill, Ext. 3698.

RIMS - 4, Chevy & Classic 78II steel-belted tires, P195/75B14, never used, $200. 878-1617.

PICKUP CAP - fg, 8' bed, mint cond. 475-0690.

GO-CART ENGINE - 3½-h.p., horizontal shaft Tecumseh engine, v.g. cond., $60. Dan, 698-7322.

PARTS - Ford 390 FE heads, new bolt on 25-h.p., 2 pr., cheap, Mustang & truck parts. Wayne, Ext. 7238.

TIRES - 4, 14" Chevy rims w/good tires, $50; '69 Chevelle SS hub caps, excel., $100. Artie, 696-2398.

TIRES - 2, P225x75R14, excel., $35 ea. 698-9274.

Boats & Marine Supplies

23' PUMA SAILBOAT - all fg, sleeps 4, galley, fixed keel, mooring, dinghy motor, sails good shape, extra sail, $2,950 or best offer. Mike, Ext. 7861 or 331-7812 eves.

22' FIBERFORM CABIN CRUISER - w/flying bridge, low hours, $3,500. John, Ext. 2738.

19½' SEA SPRITE - 1989, cuddy cabin, low hr., 130-h.p. Merc. i/o, Shoreline trailer, DF, SS radio, excel. cond., $9,300. Phil, Ext. 4030 or 732-8124.

19' MANATEE - cuddy cabin, 115-h.p. Johnson, trailer, new full canvas, DF, compass, VHF radio, bilge, many extras, $6,500 neg. Flyod, 281-3726.

18' ORLANDO - fg, step-down bow, comp. canvas, tilt trailer, elec. winch, many extras including motor, excel. cond., $1,800. 286-0904.

12' ALUMINUM BOAT - 7.5-h.p. motor, w/trailer, like new, 6-gal. tank, best offer. 369-0943.

PORT-A-POTTI - 6 gal. w/pump out connection & vent line, $30. George, Ext. 5288 or 878-8177.

Tools, House & Garden

CABINETS - kitchen, birch & white Formica, excel. cond., $150. Sharon, Ext. 5058 or 689-9869.

HEDGE TRIMMER - elec., $12; 3 wood folding chairs, $6; tennis racket, $10; wicker basket, $45; rocker. Kathy, 744-2203.

LADDER - heavy-duty, 32' extension, excel. cond., orig. $200, now $125. Bill, Ext. 2378 or 758-3284.

LAWN MOWER - Craftsman II, 20" cut, solid state, rear bag, hard case, 3½ h.p., $75. Dan, 698-7322.

LAWN MOWER - Black & Decker, 18", push, good cond., asking $50. Don, Ext. 7237 or 744-2921 after 5:30 p.m.

LAWN MOWER - Murray, 21", self-propelled, rear bag, mulching blade, 2 yrs. old, excel. cond. Ext. 5753 or 874-3209 eves.

LAWN TRACTOR - 11 h.p., 36" cut, elec. start; gas weed wacker, $500/both. 878-1617 after 6 p.m.

SAW - Craftsman, scroll, 15", $35; Craftsman router table, w/extensions, $30. Ext. 7263.

SOLAR HEAT EXCHANGE PANELS - for swimming pool, 4'x9', $40/ea., or best offer. Ext. 2165.

ENTRY LOCKS - used, sets with keys, $1/ea. Pete, 399-2813 after 5 p.m.

FLOWERS - annuals, $10/flat, $5.50/½ flat; vegetables, $1/pack, selection. Ray, 727-6818 after 4.

GLADIOLA BULBS - giant, mostly white, excel., $5/25 plus. Tom, Ext. 4507 or 878-1060.

GREENHOUSE - similar to Brookhaven House's, 10'x12', double glazed, missing some glass panels, needs work, you haul, $50. Victor, Ext. 2395.

HOSTA PLANTS - clumps, 50¢, or potted for $1/ea. Bob, 689-9234.

HYDRANGEAS - French, potted, 2 yrs. old, $2/ea.; white pines, up to 3', $3/per foot. John, 744-5867.

KEROSENE HEATER - Kerosun-105, 14,000 Btu, almost new, $50. Irv, Ext. 2827.

LAWN MOWER - Snapper, 21", deck, rear bag, needs motor, $25. Artie, 696-2398.

PLANTS - florist-grade, discount prices, flats of annuals & vegetables, 10" hanging fuchsia or geraniums, $9/ea. Jon or Donna, 363-3661.

SOLAR PANEL - Arco, 12 volts, 36 watts, 12"x48", $150. Frank, 345-5834.

TOOL CASE - new, attache-type, Xcelite TC-100, orig. $170, now $80. 727-3608 any time.

STOVE SMOKESTACK - $70; inside doors, 7'24", 3'30", 1'18", $5/ea. 661-8560 after 6 p.m.

TREES - Japanese maples, $10-$45+. Mauro, 265-6542.

Sports, Hobbies & Pets

ELECTRIC ORGAN - Thomas Playmate, 2 keyboards, 8 base pedals, color-glow, $300. Tallon, 821-5801.

ENGINE - for go-cart or mini bike, Tecumseh, 3½ h.p., horizontal shaft, excel., $60. Dan, 698-7322.

PIANO - upright, old, tuned, good. Pam, 475-2541.

TELESCOPE - Celestron C-8, 8" Schmidt cassegrain, motorized mount, heavy tripod, eyepieces, extras, excel. cond., $700. Tom, 434-9345.

BICYCLE - old, 15-spd., Peugeot, rear rack, $15. Gerry, Ext. 4841.

BICYCLE - Bianchi, 12-spd., 27"x1¼" wheels, 21" frame, like new, $175. Jean, 473-4738 or 267-3175.

BIKE - women's, 5-spd., excel. cond., $50. Ext. 4940 or 331-5695 eves.

BIKE - women's, 27", Atialia, 10-spd., Ray, Ext. 4561.

COMICS - large box, assorted, valuable. Joe, 924-4070.

EXERCISE MACHINE - Aero ski, similar to Nordic Track, brand-new, $90. Joan, 924-5533, Ext. 296.

GO-CART - 5-h.p., excel. cond., $400. Roy, 727-6714.

GOLF CLUBS - irons, $10/ea.; men's bicycle, full size, 10-spd., $50. Irv, Ext. 2827.

KEYBOARD - Yamaha PS20, $75; microwave oven, $50; coffee table & end tables, $50. Louise, Ext. 3648.

TREADMILL - Sears, 1 yr. old, fully loaded, pulse rate, incline, timer, distance meter, slant board, orig. $700, sell for $350. 473-1175.

Audio, Video & Computer

CAMCORDER - Hitachi S-VHS, many features, like new, orig. $1,200, sell for $695. L. Arnold, Ext. 5462.

COMPUTER - 386 DX, 25 MHz, VGA color mon., HD, floppy, 8 meg RAM, mouse, joystick, enhanced keyboard, asking $600. Bob, Ext. 7257.

COMPUTER - UniQ PC/XT, Casper monitor, Panasonic KX-P1080 printer, HD, more, asking $200. Ext. 2683 or 751-2469.

COMPUTERS - 386, 25 MHz, coprocessor, 2 MB, 80 MB HD, monitor, more, $350; 8088, 640k, 20 MB HD, monitor, printer, more. John, Ext. 4877.

PROJECTOR - for slides, GAF 2680, w/screen, $50 or best offer. Ext. 2683 or 751-2469.

TAPES - Berlitz German language, case, w/accompanying translation books, $50. Mott, Ext. 7108.

COMPUTER - Commodore 128, monitor, floppy drive, printer, best offer. Ted, Ext. 2620.

COMPUTER - Apple IIC, monitor, ImageWriter II printer, programs, best offer. Terry, 499-8377.

PRINTER - Star NX1001, 180 CPS draft, 45 CPS NLQ, 4 built-in NLQ fonts, $100. Kazu, Ext. 7547.

TV - 19", b&w, w/timer, excel. cond., asking $50. Frank, Ext. 3120.

TURNTABLE - ADC linear tracking, $35; metal desk, 2 drawers, $20; computer typing chair, $10. Pat, Ext. 5406 or 744-8512.

Miscellaneous

CRUISE - 2, to Freeport, 2 night stay, 4 night stay in Ft. Lauderdale, all accommodations, $400/two. Mike, Ext. 2242.

MAPLE SYRUP - from my family's farm in Vermont. Peter, Ext. 7687 or 744-1112.

RING - women's, 14 kt gold, 2 carat total diamond weight, cocktail ring, size 10, $3,195 appraisal, sell for $700. Ruth, Ext. 3305.

TICKETS - 2, Olympic Ice Skating Champions, Madison Square Garden, 5/2, 8 p.m., $45/ea. Joe, Ext. 2215 or 689-0415.

Free

BIKE - girl's, 16". Mona, Ext. 5056.

BOAT - 23' Thunderbird, fg, cuddy cabin, no motor or trailer, excel. cond., you haul away. 282-1832 eves.

DESK - 4'x6' L-shaped desk/work top w/drawers, you pick up, need truck. A. Romano, 265-0117.

FOLK BOAT - 26' lapstrake, new inboard atomic 2, sailed last year, cabin sides need work. 883-3422.

TREE - evergreen, approx. 12', you pick up. Pete, 399-2813 after 5 p.m.

Yard & Garage Sales

COMMACK - Sat./Sun., 4/3-5/1, baby items, stroller, BBQ, dinette, clothing, more, 51 Bethany Drive, off Kings Park Rd. 543-8153.

STONY BROOK - N25A, estate/yard sale, 4/30-5/1, 9 a.m., contents of 3 homes, antiques, Quaker Path to 5 Hilltop.

Wanted

ANTIQUE PAINTINGS - old and unusual, any cond., cash. Ron, Ext. 5371.

ARCHERY EQUIPMENT - old, recurves, longbows, books, catalogs, etc. Bill, Ext. 2377 or 821-6523.

BANDSAW - 14", good cond. Mark, Ext. 4986 or 821-3169.

BOAT TRAILER - 14'-16', in decent cond. Ext. 5529.

BOOKCASE - 30"wx72"h, oak finish; car-top carrier, X-Cargo box-type. Joe, Ext. 2898.

CAT SITTER - dorm-bound summer student needs temp. home for friendly, out/inside fixed male, 6/11-8/19, all exp. pd. Georgia, (706) 543-2655 collect.

COMPUTER MOUSE - for Macintosh Plus model attaching to back of computer. Ken, Ext. 5296.

DONATIONS - Upton Nursery School needs children's clothes, toys, etc., for tag sale. Cindy, 744-1090.

ENGINE - VW Bug or whole car, want Chev. engine conversion to '87 or newer Jeep truck parts. Rich, 929-8514.

HOMES - apt., condos, rooms for rent or house share, short-term rentals for guests of BNL. Marie, Ext. 4489.

LAWN MOWERS - and lawn tractors, old, complete only. Dan, 698-7322.

MOTORCYCLES - any make or model, foreign or domestic, running or not. 467-1343.

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

PORCH SWING - bench-like, chain-suspended, for 2 or 3. John, Ext. 7671.

SAND OR DIRT FILL - for home in Wading River. Rich, 929-8514.

SAXOPHONE - good working cond., for student. John, 422-5095.

MICROWAVE CART - or cupboard, wood, in good cond. Chris, Ext. 4030.

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