

Ingredients For Trouble

This is the second in a series of articles on energy by Harry Davitian, National Center for Analysis of Energy Systems.

Three developments in the 1960's set the stage for our current energy problems. Combined, they spelled the end of a period of cheap, abundant energy and the beginning of shortages and rapid price increases. What were these developments and how did they conspire to produce the problems that plague us now?

Depletion of Oil

The prolific oil fields centered in Texas and Louisiana contained the world's third largest known deposits of high quality petroleum (exceeded only by the Persian Gulf and Siberian fields). With respect to ease of extraction, proximity to consumers, and quality of product, the United States fields were unparalleled. They were a gift, the value of which we are only now beginning to fully appreciate.

For four decades, these fields fueled the economic growth of the United States with cheap, relatively clean, secure, easy to extract oil and gas. While these fuels supplied only one-quarter of our energy consumption in 1930, by the 1970's the fraction had grown to three-quarters.

In the late 1960's, in a surprise to many oil industry analysts, production from these fields reached a peak and began a long, slow decline.

Concern for Environment

Just as production from these fields was peaking, the demand for oil and gas was boosted from an unexpected quarter. Concern over air and water quality increased the demand for high quality fuels. Oil and gas were substituted for coal in power plants and in industrial boilers. Until catalytic converters became available in the mid-1970's, automotive pollution

was controlled by retuning engines for cleaner exhaust at the expense of gas mileage.

At the same time, government subsidies and regulations were holding down the price of oil and gas, increasing the attractiveness of these fuels to consumers. The net result was a sharp increase in the demand for petroleum products and natural gas.

OPEC - A New Force

With our best oil fields entering a decline, the Alaskan North Slope waiting for a pipeline, and no other major new fields to exploit, the United States turned to imports to supply its rapidly growing demand for clean fuels. At the time, we were getting a terrific bargain. Even after paying for royalties and the cost of transport to the United States, it was cheaper for us to import oil than to develop new domestic supplies. Imports grew from half a billion barrels a year in the mid-1960's to three billion barrels a year by the late 1970's.

It didn't take very long for OPEC to grasp the implications of the rapidly growing demand for its product. Organized in 1960, OPEC had attempted to raise prices during the 1960's, but had failed because supplies were plentiful then. But, when the United States, with its gargantuan appetite for oil, entered the world oil market in a big way at a time of strong worldwide demand for oil, the tide was running in favor of OPEC.

In six short years, the price of oil in the Middle East went from about \$2 to over \$25 a barrel. OPEC's oil income rose from \$10 billion to over \$200 billion a year. It was a truly phenomenal decade in the history of the world's leading commodity.

(Continued on page 2)

The Rock Riddle

Here are some facts on the mystery rock found in Little Fresh Pond on the North Fork. Bob Sabatini and Otto Kammerer of DEE ran some quick tests on it.

- About 90% of it is aluminum oxide, with the remainder being magnesium aluminum oxide and sodium aluminum silicate.
- It has a density of 4 grams per cubic centimeter (lead is 11 grams per cubic centimeter).



Doug Humphrey

The rock shown in last week's *Bulletin* was examined by Bob Sabatini (left) and Otto Kammerer. They analyzed it and came up with some data.

- Rated for hardness on a scale of 1 to 10, with diamond being a 10, it rates a 9.

Sabatini and Kammerer are in the Metallurgy and Materials Sciences Division. They don't generally investigate unidentified objects.

They do service work for scientists. Most often, they are asked to look at a material, usually metal, to see how it changes under certain conditions. For example, they can check for cracks in welds or find evidence of fatigue.

Kammerer uses light microscopes and X-ray diffractometers. Sabatini works with a scanning electron microscope. All three machines complement one another. The electron microscope can magnify samples up to 100,000 times. The X-ray machine can determine atomic structure. Pictures taken through a light microscope can be given color tints to emphasize particular features. The mystery rock was analyzed with an electron microscope and an X-ray diffractometer.

Although Sabatini and Kammerer can't say with certainty what the rock was used for, some employees had guesses on what it is:

"A gall stone resulting from someone's cooking."

"Balls in a pebble grinder for polishing materials."

"Spent fuel from a UFO."

On The Way To Magnet Production



A significant first step in quadrupole magnet production at BNL was taken with the completion of the fourth and final coil for the first ISABELLE magnet produced in-house. In the new quadrupole "factory" in Bldg. 924, the coil winding and component preparation were completed by (from left) Mike Stone, Fred Schneider, Mitch Williams and Henry Strelecki. Later phases will include construction of inner bore tubes and assembly of coils around these tubes. BNL engineers responsible for magnet and coil production are Al Bertsche and Ron Oram. When the ISABELLE team develops techniques for large scale production of coils which satisfy exacting ISABELLE specifications, construction of most of the coils and other components will be done outside the Laboratory, with final assembly at BNL.

—photo by Humphrey

Reports Available

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

- | | |
|--|---------------|
| BNL 51072 | \$4.50 |
| Fuel Cell Applied Research: Electrocatalysis and Materials. Quarterly Report, October 1 - December 31, 1978. S. Srinivasan, et al | |
| BNL 51077 | \$6.00 |
| The U.S. Oil and Gas System Representation in the EEMIS Data Structure. J. D'Acerno, et al | |
| BNL 51088 | \$5.25 |
| Report on the Combustion Research Contractors' Meeting. (Sponsored by U.S. Department of Energy, Office of Basic Energy Sciences. Division of Chemical Sciences, held at Brookhaven National Laboratory, Upton, New York 11973, October 9-11, 1979). Edited by R.B. Klemm and J.T. Muckerman | |
| NUREG/CR-1031 | |
| BNL-NUREG-51089 | \$4.00 |
| Stress and Duress Monitoring at NRC-Licensed Facilities. A. Fainberg | |
| NUREG/CR-1032 | |
| BNL-NUREG-51090 | |
| Stress and Duress Detection for NRC-Licensed Facilities. A Constitutional and Regulatory Analysis. J.N. O'Brien | |
| BNL 51094 | \$4.00 |
| The MEQATRON: A High-Power High-Frequency RF Source. A.W. Maschke | |

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|---|---------------|
| BNL 51119 | \$4.00 |
| Formulary for MEQALAC Design. A.W. Maschke | |
| BNL 51064 | \$5.25 |
| A Probabilistic Interpretation of Market Shares. A. Gerasoulis and A.S. Kydes | |
| BNL 51075 | \$4.50 |
| Alternative Process Schemes for Coal Conversion. Progress Report No. 2, February 1 - April 30, 1979. M.J. Sansone, et al | |
| BNL 51093 | \$4.00 |
| The Use of the Reference Energy System and EEMIS to Analyze Some Cause-Effect Relationships. J. D'Acerno and A. Hermelee | |
| BNL 51096 | \$4.50 |
| Alternate Materials of Construction for Geothermal Applications. Progress Report No. 19, April - June 1979. L.E. Kukacka, et al | |
| NUREG/CR-1325 | |
| BNL-NUREG-51147 | |
| Evaluation of Isotope Migration - Land Burial. Water Chemistry at Commercially Operated Low-Level Radioactive Waste Disposal Sites. Quarterly Progress Report, October - December 1979. A.J. Weiss and P. Colombo | |
| NUREG/CR-1326 | |
| BNL-NUREG-51148 | |
| Properties of Radioactive Wastes and Waste Containers. Quarterly Progress Report, October - December 1979. H.K. Manaktala, et al | |
| BNL 51010 | \$8.00 |
| Flash Hydrolysis of Coal - Progress Report No. 7, July 1 - December 31, 1978. M. Steinberg, et al | |
| BNL 51019 | \$4.00 |
| Thermal Mats for Space Heating and Cooling. P.P. Szydlak, et al | |

Paging Potential Bus Riders

The Long Island Airport Limousine Service Corp., and BNL management, would like to know if employees would be interested in establishing a bus transportation program.

The concept is that a group of employees living in the same community would arrange charter bus transportation to and from work in much the same way a van pool operates. Of course, the bus group would be much larger which should make the cost per person attractive. The buses carry up to 49 passengers and are large, plush, air conditioned vehicles. A driver is provided.

Long Island Limousine will have a bus at the cafeteria between 11 a.m. and 2 p.m. on Monday and Tuesday, June 2 and 3, so that employees may see the type of vehicle that would be used.

Those interested in such a program are asked to complete the form below and forward it to Joan Perullo, Bldg. 179B, by Friday, June 6. This survey will permit grouping by community, and initiate discussion with bus company representatives to determine routes, cost per person, and other details leading to early implementation for any group ready to go.

Brookhaven National Laboratory Employee Bus Transportation

Name: _____

Home town and ZIP code: _____

Main intersection _____

closest to home: _____

BNL Building Number: _____

I am interested in considering bus transportation if the price is right.

Quotable Quotes

ROONEY, Mickey - "A lot of people have asked me how short I am. Since my last divorce, I think I'm about \$100,000 short." (Chicago Sun-Times 31:6, June 22, '78)

ROBERTS, Dale - "He is a man of letters - all of them lower case." (Writer's Digest 58:11, Oct. '78)

KERR, Jean - "Marrying a man is like buying something you've been admiring for a long time in a shop window. You may love it when you get it home, but it doesn't always go with everything else in the house." (Chicago Tribune 65:1, Section 5, Mar. 5, '78)

JUNG, Carl Gustav - "Nothing has a stronger influence on their children than the un-lived lives of the parents." (Boston 70:97, June '78)

LAMARR, Hedy - "Any girl can be glamorous. All you have to do is stand still and look stupid." (Chicago Sun-Times 30:21, Jan. 28, '78)

CONNOLLY, Cyril - "Imprisoned in every fat man a thin one is wildly signaling to be let out." (Vogue 168:199, Feb. '78)

ALLEN, Fred - "Television is a triumph of equipment over people, and the minds that control it are so small that you could put them in a gnat's navel with room left over for two caraway seeds and an agent's heart." (CoEvolution Quarterly 16:153, Winter '77/'78)

—from the Dictionary of Contemporary Quotations

Speakers Bureau May

William Graves (DEE), Hofstra University, Solar Economics, May 6.

Anthony Hendricks (DEE), League of Women Voters of Southampton, Energy Conservation, May 8.

Frank DeVito (Math), Commack Jr. High School, Careers in Math, May 16.

Alfred McInturff (Accel), Superconductivity/ISABELLE; Irvin Meyer (Chem), Glass and Scientific Glassblowing; Irwin Lewis (Math), How a Computer Draws Pictures, Science Explorations '80, Dowling College, May 19-20.

Anthony Hendricks (DEE), American Planning Association, Energy Technology on Long Island, May 20.

R.C. Anderson (DO), American Association of University Women, Nuclear Energy, May 21.

Harvey Thomas (DO), Newfield High School (Selden) Career Day, Careers in Engineering, May 21.

William Graves (DEE), National Energy Foundation SEER, Judge for Energy Exhibits, May 27.

Hospitality News

A morning coffee will be held Tuesday, June 3, from 9:30 to 11:30 a.m., in the Brookhaven Center.

All wives of Laboratory employees are welcome. Please come and bring the children. Babysitting will be provided free of charge. It is suggested that you bring along a toy or two for your child to play with.

Beginning with the month of June, the morning coffee get-togethers will be held the first Tuesday of every month. The new schedule for the remainder of the year is as follows:

June 3	October 7
July 1	November 4
August 5	December 2
September 2	

Children's Summer Recreation Program

The 1980 Children's Summer Recreation Program will begin on Monday, June 30, and continue through Friday, August 22.

Registration applications may be picked up at the BERA Film Service Office in the Cafeteria between 9:00 a.m. and 1:00 p.m., or at the Personnel Recreation Office between 8:30 a.m. and 5:00 p.m. Applications with registration fees for the On-Site Program and the Swimming Classes should be sent or delivered to the Recreation Office as soon as possible.

On-Site Program

This program is open to children of employees residing on site. Sessions will be held in the Recreation Building on Monday through Friday from 9:00 to 11:30 a.m. and 1:00 to 3:30 p.m. The sessions will provide a varied program including instruction and play in group and individual games, arts and crafts, and athletic activities. Special events will be scheduled to add variety to the regular activities.

Participation requirement: minimum age 3 years.

Registration fee: \$15 each child (1 to 4 weeks participation); \$30 each child (5 to 8 weeks participation).

Energy

(Cont'd)

For the energy consumer, it was a disaster: electricity prices tripled, gasoline prices quadrupled, and fuel oil prices quintupled. In 1979, we paid \$60 billion for OPEC oil.

Taken alone, these developments would have led to a serious, but short-term, energy problem for the United States. Dealt with swiftly and skillfully, we might have escaped with only minor consequences. But coupled with public skepticism, political opportunism, bureaucratic ineptitude, and entrepreneurial inertia, the problems continue to grow.

—Harry Davitian

Next week: *Looking ahead to a new energy picture.*

Solar Seminar

Henry Ehrenreich, Professor of Applied Physics at Harvard University, will present a joint physics/chemistry/DEE colloquium on "Solar Photovoltaic Energy in the Year 2000: The One Percent Solution." Ehrenreich chaired the American Physical Society Study Group on this topic, and will discuss the conclusions and impact of that study. The colloquium will take place on Friday, June 6, at 11 a.m. in the Chemistry Department's Hamilton Seminar Room.

Arrivals & Departures

Arrivals

Edward Densieski.....Accelerator
Subrata Ghoshroy.....Accelerator
Kathy Henderson.....Contr. & Proc.
Robert B. Wolf.....Physics

Departures

Jodi W. Earle.....Safety & Env. Prot.
Carol A. Farrell.....App. Math.
Maureen F. Stock.....Ph. & Gr. Arts
Jan Votruba.....Accelerator
Joseph R. Wagner.....Energy & Env.

Selected Reading

J. Am. Med. Assoc. 243 (20), May 23/30, 1980
Walking: A method for rapid improvement of physical fitness. Y. Shoenfeld, et al. 2062-3

Nat. Rev. XXXII (10), May 16, 1980
The communist assembly line for olympic champions. L. Baker. 584-7

Retiring Today



Mort Rosen

Michael J. Perrier, Rigger (Group Leader) in Plant Engineering, has been with BNL for over 30 years, since March 24, 1947. Now, he says, he just plans to take it easy and go fishing.



Doug Humphrey

John J. DeMichele, Senior Dietary Assistant in Medical, is a self-taught artist. About ten years ago, he did a bronze of the head of Christ and brought it to the chapel at the hospital. Retiring today after almost 20 years at the Lab, he is donating this art work, called "Veronica's Veil," to the Medical Research Center. "I felt I should leave something behind," he said. "The Lab's been good to me."



Mort Rosen

Henry Schwartz, Refrigeration & Air Conditioning Engineer, Plant Engineering Division, has been employed at the Laboratory since May 23, 1977. He is going to relocate in Pompano Beach, Florida.

No Gym Saturdays

The gymnasium will be closed on Saturdays during the months of June, July and August due to the minimal summertime usage of the facility on weekends.

Normal schedule will resume on Saturday, September 6.

Swimming Classes

Classes are open to children of all Laboratory employees and will be held Monday through Friday between 1:30 and 3:00 p.m. Each child will be scheduled for one lesson a week.

Participation requirement: minimum height 48".

Registration fee: \$15 each child. In addition, each child will pay the \$1.25 daily admission fee, or present a season ticket.

Other Activities

These activities are open to children of all Laboratory employees and require no preregistration.

Tennis Program

Basic tennis instruction and tournaments will take place at the BNL Courts from 3:00 to 4:00 p.m., Monday through Thursday. No fee will be charged.

Friday Pool Specials

Water games and contests will take place every Friday afternoon (with the exception of July 4) between 3:15 and 4:30. Each child will pay the normal \$1.25 daily admission fee, or present a season ticket.

BROOKHAVEN BULLETIN

Published weekly
for the employees of

BROOKHAVEN NATIONAL LABORATORY

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Letters To The Editor

To the Editor:

We applaud the efforts of Harry Davitian to explain the "energy crisis" to the layman. Unfortunately, we find that Harry's analysis contains several common misconceptions.

U.S. energy problems do not stem from fragmented responsibility for energy policy prior to 1975. Rather, they have resulted from energy price regulations, regulations that have held prices below their natural market level. Low prices have discouraged U.S. energy production and discovery while at the same time encouraging increased consumption. Why hasn't the consolidation of energy policy responsibility into D.O.E. since 1977, reduced imports and prevented shortages? U.S. regulatory policy has continued to hold domestic energy prices down and the entitlements program has subsidized imports. And, in fact, while the government was asking for conservation, real consumer energy prices declined between the 1973 and 1979 import supply interruptions. In the absence of energy price regulations and the entitlements program, domestic energy prices would have risen and both energy production and conservation would have been greater.

Yes, we agree that energy conservation is part of the solution to the U.S. energy problem. But the real policy question is: how will energy conservation be achieved? Through increased regulation, or price incentives? Harry leaves this question unanswered. Our experience has taught us that markets work to allocate scarce resources, and we submit that energy policy is too important to be left to the planners. In fact, results of a joint BNL-Oak Ridge National Laboratory-Dale Jorgensen Associates study now in progress indicate that domestic energy price increases during the past year, and those expected under continued deregulation during the next 20 years, provide sufficient incentives for massive energy conservation in the industrial sector after 1985.

—Paul Groncki, NCAES

—Stephen Brown, NCAES

—Marjorie Schnader, NCAES

Technical Seminar

A technical seminar on Channeltron and Microchannel plate detectors will be given on Wednesday, June 4, from 1 p.m. – 3 p.m., at the Hamilton Seminar Room, Chemistry Department. Representatives from Galileo Electro-Optics Corp. will present an overview of Channeltron and Microchannel plate theory with special emphasis on applications, and a review of MCP readout capabilities and mounting techniques.

Volunteers Wanted

A limited number of healthy volunteers, both men and women, are wanted to participate in a clinical study to determine the biological distribution of radioactively labeled and heated red cells over a 24 hour period. The study will require a one night stay in the Hospital of the Medical Research Center. For further information call 345-3672.



BNL's summer weekend tours begin tomorrow. Gathered at the Exhibit Center are the tour guides and staff who will be conducting tours of the site. Top, left to right, are Jackie Mirzadeh, Joyce Bertwell, Penny Byrne, Maria Gracia Pellegrini, Eileen Drower, David Lieberman, and Patrick Wyant. Bottom, left to right, are Ellen Anderson, Judi Stidd, Janet Hoeftling (tour manager), Janet Tempel (assistant manager), Amy Frerichs, Eloise Gmur, Shelley Pick, and Ellen Kelsch. Not present for the picture were Silvia Iwantschuk and Sheryl Maningo.

Come Fly A Kite At BNL

Brookhaven's summer tour season will get off to a flying start this weekend. Some of the special events will be a demonstration on how to build a solar collector, and a kite flying contest for kite enthusiasts of all ages.

At 3 p.m. on Saturday, Alfred Lewandowski, DEE, will give a special demonstration on how to build a do-it-yourself window box solar collector. The inexpensive (approximately \$30) and lightweight unit can be easily constructed from readily available building supply materials. The demonstration will be located in Berkner Hall, which serves as the reception area for the weekend tours.

Also in Berkner Hall, on both days of the opening weekend, visitors can enjoy a live stage show entitled "Energy Today and Tomorrow," along with Brookhaven's own multi-screen slide show, "Quest." Representatives of the Cooperative Extension Association will be on hand to help visitors learn about home energy conservation.

The kite flying contest will begin at 10 a.m. on Sunday, at the field behind Berkner Hall. Contestants should go directly to the kite field to sign up for the contest. Spectators are welcome, and a limited number of kites will be on sale for spur-of-the-moment entries.

A distinguished group of kitists will act as judges and provide kiting tips

during the contest. The Master of Ceremonies and Chief Judge will be internationally known kite master Gerard Hacquebard. Assisting Hacquebard in the judging will be "Captain Kite" (alias Stu Cohen of West Babylon); Jim Linnen, President of the Long Island Kitefliers Association; and Karen Schlesinger, Manager of the Manhattan-based company, Go Fly A Kite.

The contest categories are: Highest Flier, Smallest Kite, Biggest Kite, Most Beautiful Kite (home-made).

In each category, the first place winner will receive a prize from the BNL Exhibit Center's science store, and ribbons will be awarded for first, second and third place. A "kite hospital," equipped with tissue paper, tape and string, will be set up to aid contestants who encounter last-minute disasters.

Brookhaven's weekend summer tour season will continue through September, with free guided tours available every Saturday and Sunday except Labor Day weekend. All tours include a guided bus ride around the Lab site and a visit to BNL's Exhibit Center, where dozens of displays describe the Lab's scientific research. The tours are given continuously between 10 a.m. and 4 p.m., but visitors should plan on arriving by 3 p.m. to allow enough time for the complete program.

Bowling

Gold League

Congratulations to "Fission" – the Gold League Champs. Good games by Betty Jellett 177, Chris Bortscheller 159, and Linda Feierabend 153, plus solid bowling over average by Marie Susa helped to defeat the "Swingers." Good scores by Bea Pyatt 164, Kay Conkling 163, and Joyce Pinelli 153 made it a close contest.

Theater Group

The BERA Theater Group will hold its annual election meeting on June 6 at 8 p.m. in the North Room of the Center. The slate of nominees is as follows:

President	Anthony Fainberg
Vice-Pres. & Treas.	Sandi Lane
Secretary	Liz Russell
Advisory Chairman	Joe Skelly
Program Chairman	Jane Love
House Chairman	Clarence Pittenger

Cafeteria Menu

Week Ending June 6, 1980

Monday, June 2	
Tomato vegetable soup	(cup) .40 (bowl) .50
Cheese omelet & 1 veg.	1.30
Spaghetti and meatballs w/garlic bread	1.40
Hot Deli – Pastrami	(on bread) 1.45 (on roll) 1.55
Tuesday, June 3	
French onion soup	(cup) .40 (bowl) .50
Macaroni & cheese & 1 veg.	1.30
Meatloaf & hash browns	1.45
Hot Deli – Corned beef	(on bread) 1.40 (on roll) 1.50
Wednesday, June 4	
Pepper pot soup w/spaetzle	(cup) .45 (bowl) .55
Mexican goulash	1.40
Southern fried chicken w/corn fritter	1.45
Hot Deli – Veal pattie & peppers hero	(on bread) 1.35 (on roll) 1.45
Thursday, June 5	
Chicken gumbo soup	(cup) .40 (bowl) .50
Roast fresh ham & 1 veg.	1.45
Eggplant parmigiana w/meat sauce	1.30
Hot Deli – Fried fillet hero	1.45
Friday, June 6	
Manhattan clam chowder	(cup) .45 (bowl) .55
Sweet & sour fish & 1 veg.	1.45
Ham, rice & greenbean casserole	1.40
Hot Deli – Sandwich steak	(on bread) 1.45 (on roll) 1.55

Softball

League I

Blue Jays 12 – Six Pax 5

It was nip and tuck till the 7th inning when the Blue Jays scored 6 runs for the win. Nick Pisco went 4 for 5; Larry Musso and Tony Kossiakoff went 3 for 4. The big hit was delivered by Bob Meier, Jr., a bases loaded triple. For the Six Pax, Jim Roesler went 3 for 4 and John Usher went 2 for 3.

Deegenerates 4 – Source I 2

Tough defense on both sides resulted in a low-scoring game. Joe Rabinowitz pitched a good game for the winners. Source I called the game a SLUG FEAST!!

Ravens 14 – Phoubars 4

Good defense, timely hitting and a strong pitching performance by Spider Ligon prevailed for the Ravens. Mac Thomas made a spectacular catch in the outfield. Leroy James had a home run while Reggie Hunt and Jim Garrison were the hitting stars. The Phoubars played a good defensive game, but their bats were sluggish.

Leagues II and III Rained Out

League IV

Nads 18 – Thrids 10

Balls & Strikes 15 – Turkeys 9
Survivors 10 – Diamonds 7
Random Sample 5 – E-Z Riders 4

League V

Who Cares 13 – Source III 9

A typical Who Cares game – gorgeous girls diverting the opposing men's attention.

Who's On First 8 – Mudville Sluggers 5

Harry Ackerman hit the first home run

of Who's On First history!

Underalls 7 – No Feedback 6

Dynamite fielding by John Read and Pat Pecchio highlighted the Underalls stunning victory.

No Names 10 – TNT 8

Cricket

A cricket practice will be held on Friday evening, May 30, at 5:30 p.m. The first match of the season is scheduled for Saturday, June 7, at 1:30 p.m., against Staten Island C.C. For further information, call John Mil-lener, Ext. 3853 or Dave Cox, Ext. 3818.

Classified Advertisements

Placement Notices

The Laboratory's placement policy is to select the best-qualified candidate for an available position, with consideration given to candidates in the following order of priority: (1) present employees within the department, with preference to those within the immediate work group; (2) present employees within the Laboratory as a whole; and (3) outside applicants.

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

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

Each week, the Personnel Office lists new personnel placement requisitions. The purpose of these listings is, first, to provide open placement information on all nonscientific staff positions; second, to give employees an opportunity to request consideration for themselves through Personnel; and, finally, for general recruiting purposes. Because of the priority preference policy stated above, each listing does not necessarily represent an opportunity for all candidates. As a guide to readers, the listings are grouped according to the anticipated area of recruitment, as indicated below. Except when operational needs require otherwise, positions will remain open for one week following publication date.

For further information regarding a placement listing, contact the Personnel Placement Supervisor, Ext. 2882.

LABORATORY RECRUITMENT: Opportunity, for present Laboratory employees.

1356. CLERICAL POSITION - Requires excellent secretarial and language skills. Working knowledge of the MICOM or other related word processing systems is essential. Will primarily be responsible for organizing and processing technical reports utilizing MICOM Text Editing equipment. Department of Energy and Environment.

1357. CLERICAL POSITION - Requires good typing and recordkeeping skills. Must have capability to learn data processing systems. Will be responsible for handling diversified clerical jobs, i.e., typing correspondence and reports and preparing and processing various management information records. Will also be responsible for the daily review and entry of information into a computerized job cost system. Central Shops Division.

1358. TOOL AND INSTRUMENT MAKER (5 positions) - Central Shops Division.

1359. SHOPS FABRICATION ASSISTANT - Central Shops Division.

1360. OILER-MECHANIC - Central Shops Division.

OPEN RECRUITMENT: Opportunity for present Laboratory employees and outside applicants.

1361. MEDICAL ASSOCIATE - Requires BS in animal science/zoology or equivalent experience in animal research. Must be able to participate in initial two-month residential training program (off-site) at primate research center. Will provide assistance with animal care (primates), training, and experimentation for an NIH-sponsored project on positron emission transaxial tomography. (three-year duration) Medical Department.

1362. EXPERIMENTAL MACHINIST - Requires experience in job print interpretation, layout, and machine set up. Candidates must demonstrate ability and imagination in all phases of machine work. Will function as an all-round machinist for non-production work in research and development shop. Project assignments range from raw material to final assembly. Central Shops Division.

1363. HEAVY EQUIPMENT MECHANIC OPERATOR - Requires ability to maintain, operate and repair all material handling, earthmoving, road and ground maintenance and related equipment. Plant Engineering Division.

1364. TECHNICAL POSITION (Mechanical) - Requires AAS in mechanical technology or equivalent capabilities with working knowledge of performing stress tests of various chemical and stainless steel materials. Ability to operate furnaces, pressure vessels and electronic equipment is desirable. Work will involve mechanical testing of materials for various scientific staff members of the Corrosion Science Group. Department of Nuclear Energy.

1365. COMPUTER OPERATOR - Requires AAS degree in data processing or successful completion of computer operations training program or equivalent experience assisting in the operation of a large electronic digital computer. Must be willing to work rotating shifts. Applied Mathematics Department.

1366. DRAFTER - Requires AAS degree or equivalent, with at least three years experience. Work will entail detailing and light layout. Physics Department/National Synchrotron Light Source Project.

1367. MECHANICAL ENGINEER (two positions) - BSME or equivalent with a background in general machine design and high precision manufacturing processes. Knowledge of vacuum technology and computer programming desirable. Accelerator Department/ISABELLE Project.

Autos & Auto Supplies

TUNNEL RAM MANIFOLD - fits sm block Chevy, brand new, never used. \$85. Joe, Ext. 2022.

78 HONDA CAFE RACER - 100% chrome, 2 modified engs, \$6000 invested. Best offer over \$4500. 928-0158 after 6.

76 HONDA CJ360 - windshield, hwy bar, new batt, extras. \$795. Kathy, Ext. 2410, 399-6585 after 6:30.

73 CHEVY 1/2 TON PICKUP - stick shift, 50,000 mi. \$1500. Vin, 281-9411.

72 FORD MAVERICK - good cond, new tires/brakes/batt/muff sys, AM/FM, good mi. Ext. 2915, 289-3194.

74 LE SABRE LUXUS CONV - a/t, full pwr, AM/FM, a/c, rear defrost, mags. Best offer. Ext. 4113, 289-0753.

CHROME REV - 1 pr 14", 5-lug Road Hugger, no rust. \$40. Jeff, Ext. 4812, 286-2467.

67 BUICK WILDCAT - ps/pb, a/c, new snows & tires, 97,000 orig mi, good mpg, excel cond, must sell. \$750. Ext. 2913, 698-7591 eves.

75 PACER - 3 spd, ps/pb, excel cond, 30,000 mi. \$2200. 475-4792 after 5.

TIRES - (2) B78-13 b/w mounted on Maverick rims. \$5 ea. Ext. 4592.

66 CHEVELLE - rebuilt 350 ci, a/t, good cond. \$400. Murdock, Ext. 4731.

75 RABBIT - very good cond, new clutch, new radials. \$2600. 751-4491 eves.

AM/FM STEREO - in-dash model w/mount & wire harness, 2 yrs old. \$50. Bill, Ext. 2906.

74 PONTIAC GRAND PRIX - excel cond, low mi, AM/FM stereo tape, good mpg. Asking \$2000. Ext. 2501.

77 FORD LTD - 40,000 mi, excel cond, fully powered, a/c, AM/FM stereo, fabric interior. \$4000. Garfield, Ext. 2901, 736-1673.

Boats & Marine Supplies

20' CLAMBOAT - glassed shintink, 140hp Johnson, new. Andy, Ext. 4497.

8' WOODEN DINGHY - good cond. \$75 compl w/oars & lifevests. Fred, Ext. 2057, 261-5735.

16' CLASSIC - 1947 mahog century, 6 cyl Grey marine inboard eng, good cond. \$700. Ext. 4088, 286-0204.

Yard Sales

EAST PATCHOGUE - 83 Lyman Rd, May 30-31, Super duper yard sale III, furn (incl baby's), curtains, books, much bric-a-brac.

Miscellaneous

ARTHUR ASHE COMP I - 4-3/8L, new strings, new grip. Asking \$40. Ext. 3293.

LEAF & BRANCH MULCHER - 5 hp, \$225; colony table, 60" round, 2 leaves, \$25; (2) deep fryers, restaurant equip, \$100/both; toaster, \$10. Diane, 878-4984.

BICYCLE - boy's or girl's 20". \$25. Dinos, Ext. 4666.

AIR COND - GE 5000 BTU, window mount, \$40; weight set w/bench, 115 lbs, brand new, \$45. 821-1148 after 6.

HOMELITE PUMP - high pressure, 12,000 g.p.h., 100' discharge hose, 15' suction hose. \$1000. Bob, Ext. 2352.

5 GAL GAS CAN - new. \$5. Ext. 3431, 744-9677.

UNIFORM PUMP - deep well, asking \$100; grindstone w/seat & treadle, truly an antique, asking \$75. 732-3338.

COLONIAL - D/R set, dk pine, huge hutch & trestle table, 4 side chairs, 2 arm chairs, brand new. Paid \$1300, asking \$990. 929-8748.

CANDLESTICK PHONE - blk w/gold trim, Western Electric make, like new. \$50. Carey, Ext. 4189.

WASHER & DRYER - apt size, gold color, like new. Cost \$500 new, sell \$275, 821-1525.

FREE- used kitchen countertop, good cond, cantelope, sink & stove cutouts, call for dimensions. Ext. 7110.

POOL SAND FILTER - used 1 mo, excel cond. \$80. 878-4664 after 5.

RUNNING SHOES - Nike Daybreak, size 11 1/2, used 4 times. \$20. Ted, Ext. 2959.

SOFA BED - pull out, 78"W, \$50; chair, swivel rocker, \$15; Early Am liv rm chair, \$35. John, 744-5867.

OLD CAMERAS - Kodak, \$15; Life-O-Rama III, \$15, both \$25; Clairol auto eye tweezer, new, \$5. Henry, Ext. 2534.

SIDE-BY-SIDE REFRIG - portable dishwasher, Victorian side chair, Heywood Wakefield 54" cherry hutch, 54" round maple table w/leaves & 6 captain's chairs, maple side chest, 48" round table, cannonball single bed & chest, Sears sewing machine. Ext. 4853.

FREE KITTENS - 1 mo, calico mix. Jeff, 4812, 286-2467.

VACUUM - deluxe Hoover Powerhead, w/auto rewind, tools, etc, like new. Asking \$85. 475-7067.

GIRL'S BICYCLE - excel cond, \$35; child craft wooden kitchen set, best offer. Nancy, Ext. 3420.

CONSOLE STEREO - solid wood custom built, perf cond, Electrovoice spkrs, Harmon Kardon rcvr. Best offer. 369-2151 after 6.

ANTIQUA BEER COOLER - & parts, all copper, \$150; class 3 hitch, truck or auto, \$100. 281-8592.

HP-97 CALCULATOR - brand new. Frank, Ext. 2482.

POOL EQUIPMENT - 1/2 hp filter pump, \$25; chlorine tablets, approx 40 lbs, \$40. 369-2504.

AIR COND'S - 6000 BTU, \$30; 8000 BTU, \$35; 20" fan, 3 spd, reversible, \$15. Ext. 2497, 281-2767 eves.

BEDDING - twin size matt & boxspring, good cond, \$25; sanding belts, 4x24", \$1. Ext. 3469, 281-4371.

CONTENTS OF APT FOR SALE - Ethan Allen furn & much more, Coram. 698-0861.

FILE CABINET - for cards 7"x9 1/2"x16", Steelmaster, excel cond. Tim, Ext. 6982, 727-7741 after 6.

FREE - 2 small dogs, housebroken, would like to stay together. 399-5095 after 7 p.m.,

EARTH STOVE - airtight wood stone/fp, top vented, auto thermostat, brick lined firebox, 32"Hx30"Wx23"D. \$400. 821-1148 after 6.

ANTIQUA SLED - old fashioned front runners. \$50 firm. 732-3338.

RADIAL ARM SAW - Craftsman 10" (Sears Best), compl w/legs & access kit, never used. \$300. Ext. 4709.

SEARS KITCHEN COMPACTOR - hardly used, w/10 bags. \$60. 981-4419.

STEREO RCVR - AM/FM walnut cabinet, good cond, \$75; tennis stringing machine & strings for sale or trade. Cliff, 3965, 281-8318.

DRESSER - Danish mod, 5'Lx18 1/2"x30 1/2"H, walnut wood, great for storage, good cond. \$150. Ext. 4532, 277-4091.

19" RCA COLOR TV - good cond. \$60. Ext. 2206.

COAT - man's all-weather top coat, fur collar, fur-lined, brown, size 44, never worn. \$30. Ext. 3771, 878-1471.

BABY ITEMS - deluxe carriage, \$35; bassinet, swing, etc; 10 spd man's bike. Reasonable. 924-0030.

1/2" FULL WET SUIT - pants & top, new cond. Ext. 2983.

LEAF & BRANCH MULCHER - 5 hp, \$225; colony table, 60" round, 2 leaves, \$25; bedrm set, Medit dbl bed, triple dresser w/mirror, armoire, 2 night stands, no matt, \$425 or best offer. Diane, 878-4984.

WURLITZER CONSOLE PIANO - 3 yrs old, new cond, colonial styling. \$695. Ext. 7995, 475-5415.

MAPLE DIN RM SET - w/hutch, mint, 42" round Burlington pine table w/leaf, mint cond. 727-0505.

CAMERA - Pentax ME 35mm, w/50mm f:1.4 lens, leather case, auto, excel cond. \$200. 698-9296.

TV - b/w portable, \$35; iron, \$6; vaporizer, \$5; all in good cond. Julie, Ext. 3070.

FURNITURE - antique white breakfront, gold leaf coffee table w/marble top; both perf cond. 735-6564.

RECLINER CHAIR - \$10. 727-5912.

RCA COLOR TV - 19", table model, plays well. \$175. Alan, Ext. 2252.

HOSE - soaker, 75', \$8; grass shears, battery, \$8, manual, \$4; pruning shears, \$4. Ext. 2497, 281-2767.

POP UP CAMPER - 1968 Hilltop, sleeps 6, stove, ice box, sink. \$350. 472-3514 after 4.

MOVIE CAMERA - \$25; stereo, \$35; crib, \$15; recliner, \$25; and more. George, 288-5697.

GRANITE - for your fireplace, barbecue, walk; white, blk & white, pink, red. 2 tons/\$175. 924-3553.

Real Estate

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

For Sale

BELLPORT VILLAGE - 3 bedrm hi ranch, L/R, F/R, den, lg eik, deck, 1 1/2 baths. \$42,000. 286-8166 after 5 & weekends.

BELLPORT SOUTH - colonial ranch, L/R, D/R, vaulted 15' ceilings, fam rm w/built-in birch bookcases & sliding doors to 30' Astro-Turf patio, 3 bedrms, new eik, 2-car gar, out bldg, prof landscaping, brick ent patio, assumable 8 1/2% mtg (\$75 transfer cost) of \$34,000. \$52,500. 286-3732.

MEDFORD - close to LIE, mother/daughter, all newly remodeled on 3/4 acre incl buildable lot, upstairs 3 bedrms, DR/LR w/fp & w/w down stairs, eik, 1 bedrm, L/R, sep elec & heat, \$53,000. 475-2769 after 5.

SHIRLEY - split level, 2 baths, 3 bedrms, L/R, D/R, eik, fam rm, fin bsmt/oil hot water heat/wood-coal stove, 1/2 acre, near schools, shopping & RR, immed occupancy. 281-1599.

CENTRAL ISLIP NORTH - 1 acre, hi ranch, 8 rms, 1 1/2 baths, 24x28 sunken patio, possible M/D, many extras. Yani, Ext. 2514, 234-8564.

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

BELLPORT VILLAGE - 3 bedrm ranch, lg eik, att gar, patio, stockade fenced yard. \$36,000. 286-0795.

CENTEREACH - 4 bedrm colonial, eik,den, bar, 1 1/2 baths, gar, 1/4 acre fenced. Call owner F.T.S. 924-6146, 862-9733.

PORT JEFFERSON - Harbor Hills, 4 bedrm ranch, wooded 1/2 acre, oak floors, copper wiring, beach rights, short term 2nd mtg avail. High 60's. Ext. 4504. 473-1523.

MASTIC BEACH - 3 bedrm ranch, corner lot, roofed patio, pleasant loc near water. Low 30's. 281-7531.

TOWN OF E. HAMPTON - building lot 100'x150' near Gardiner's Bay, prvt beach & marina rights. Asking \$13,500. Ext. 3469, 281-4371.

For Rent

MIDDLE ISLAND - 6 mi from Lab, condo townhouse, 3 bedrms, 2 baths, 5 appl, use of club house, swimming pool, tennis court. Franz, Ext. 4337, 744-3235 eves.

CORAM - 2 bedrm apt, to sublet, 7 mi from Lab, avail Aug 1, swimming pool & tennis courts. Ext. 4367, 698-3347 eves.

BELLPORT VILLAGE - 1 bedrm, 2nd floor, unfurn apt, prvt ent, gar, util incl, close to golf, tennis, and dock facilities. Lease, \$295/mo. 286-8850.

RIVERHEAD - 2 bedrm house, unfurn, no pets. \$230/mo, util extra, 1 mo security. 727-5871.

N. PATCHOGUE - new 2 1/2 rm apt, eik, full bath, free cablevision, prvt ent, 15 to Lab, furn/unfurn, working couple or single female only. \$250/mo w/util. 654-2831.

BROOKHAVEN HAMLET - furnished apt - large liv rm, 2 bedrms, kitchenette, bath, oil heat incl, 1 or 2 mature working adults. 286-9181.

Wanted

RIDERS - for van pool from Miller Place to BNL. Don, Ext. 3284.

ADULT-SIZE TRICYCLE - inexpensive. 698-2114 after 6.

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

BOY'S BICYCLE - inexpensive. Ann, Ext. 4959.

HOUSING - for Stony Brook students. Ronnie, 246-5979.

VANITY DRESSING TABLE - for teenager's bedrm. Ext. 4846, 363-6940 after 5.

BIKE RIDERS - 100 mi cyclethon, Babylon to Montauk, LIRR providing return transportation, June 7, call Amer Heart Assoc. 363-6200.

RACQUETBALL PLAYERS - racquetball party, Fri June 6, Unique Lake Grove. \$7/person. 981-8866.

Car Pools

BELLPORT - wish to join existing 4-5 man car pool beginning June 16, home on Country Gleens Drive. George, Ext. 7654.

MATTITUCK/GREENPORT - car/driver needed to comp 5-person car pool. W. Stars, Ext. 4278.

NASSAU-LIE EXIT 36 - need driver for 5-person car pool. Don, Ext. 7611; Ed, Ext. 3353.

Services

AUTO REFINISHING - all areas of work performed, discount rates for sm car refinishing. Ext. 2546, 744-4047.

SHARPENING SERVICE - hand, circular & chain saws, scissors, mower blades, etc. Marie, Ext. 2265; Joe, 732-3286.

CARPETS INSTALLED & REPAIRED - quick dependable service, free estimates. Jim, 821-0187.

MOWING & OTHER SERVICES - Jr. H.S. student, Bellport, clients must provide own mower. 286-3742 eves.

TIRES - new, used, tires, rims, repairs. F. Usack, Ext. 4798 lunchtime.

EXPERT HOUSE SITTING - Lab vicinity, any duration, free. Jack, Ext. 2059.

FRESH CLAMS - \$1.50/doz. Ken, Ext. 3354, 654-2831.

ALARMS INSTALLED - burglar/fire, residential/commercial, custom designed, 15 yrs experience, free estimate. 924-5668.

ASPHALT PAVING & SEALING - Bob, 475-4382.

- | | | | |
|--|--|---------------------------------------|---------------------------------|
| <input type="checkbox"/> For Sale: Autos & Auto Supplies | <input type="checkbox"/> For Sale: Miscellaneous | <input type="checkbox"/> Lost & Found | <input type="checkbox"/> Wanted |
| <input type="checkbox"/> For Sale: Boats & Marine Supplies | <input type="checkbox"/> Car Pools | <input type="checkbox"/> Services | |

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.

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To accommodate as many employees as possible, only one ad per person, per week, will be accepted.