

Groundwater Update

A Fifth Well Is Over State TCA Standard; Preparation Continues for Hookups, Cleanup

Local controversy is still raging over chemicals in local groundwater, while testing continues to determine the true nature, extent and origin of the contamination.

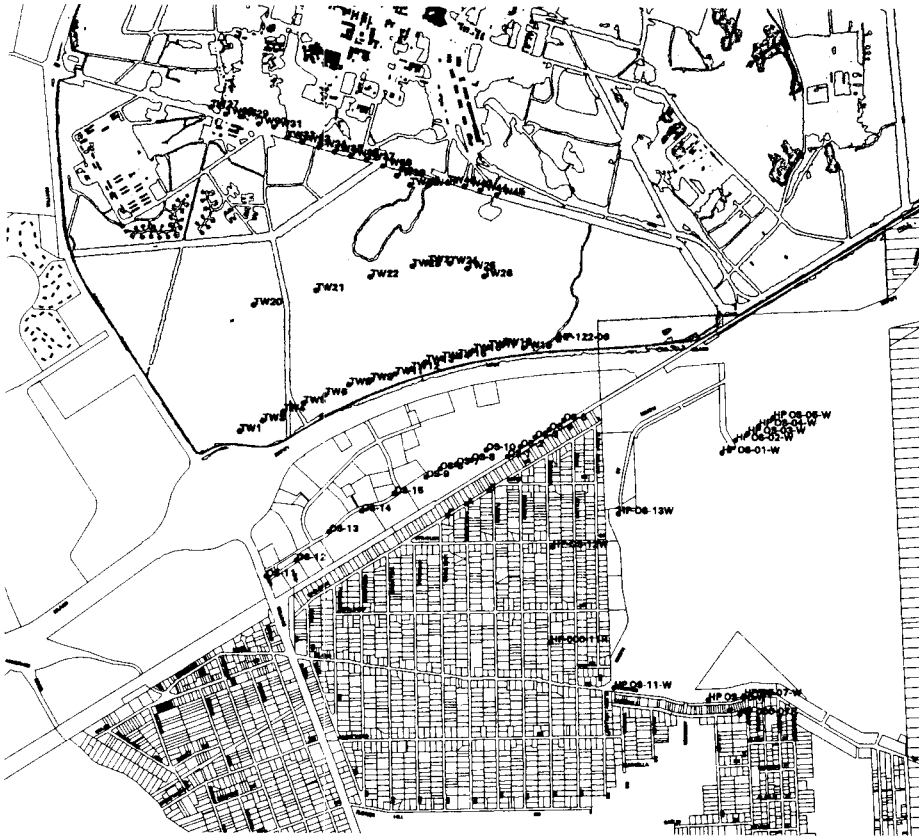
Meanwhile, the U.S. Department of Energy (DOE) is preparing to implement its promise of free public water connections for northern Shirley, a program that will be completed by the end of the year.

Test results from more than 312 private North Shirley wells now show a total of five wells — up from four last week — with levels of 1,1,1-trichloroethane (TCA) at or above the New York State drinking water standard. The Suffolk County Department of Health Services (SCDHS) is conducting the survey. TCA is widely used as an industrial and commercial solvent for degreasing and cleaning, and an ingredient or solvent in consumer products.

SCDHS has stated that the contamination in them is most probably not from BNL, but from an industrial park south of the Lab and north of the affected homes.

New York's drinking water standard (DWS) for TCA, which is the state's maximum allowable level in drinking water, is 5 parts per billion (ppb). The federal DWS is 200 ppb. No wells have exceeded the federal standard. Both drinking water standards were set by regulators after evaluation of known health effects in humans and animals after exposure to high levels of TCA.

Both standards include margins of



A map of BNL's southern area (shaded) and the North Shirley neighborhood whose groundwater is the center of the controversy. Black dots indicate BNL and Suffolk County monitoring wells, which have turned up evidence of groundwater contamination in the area. This contamination is believed to have come from an industrial park shown on the map just south of the Lab and the Long Island Expressway.

safety to protect public health, so no health effects are expected from the concentrations of TCA that have been found in the five wells. New York State's DWS is one of the toughest in

the nation; it includes an extra margin of safety in its limit.

As a precaution, however, DOE has already arranged for two of those (continued on page 2)

BNL Lecture:

The Mystery of Superconductors Penetrated

In a blaze of publicity, the 1986 discovery of the first high-temperature superconductors — ceramic compounds that lose all resistance to electricity at the relatively high temperature of 35 kelvins (-396°F) — amazed the scientific community. The initial report led to the rapid identification of numerous related compounds, many of which superconduct at even higher temperatures.

The excitement surrounding the new superconductors was more than academic, as significant commercial applications were anticipated. A major advantage of the new materials is that many can be cooled to the necessary temperature with liquid nitrogen, a cheap alternative to the liquid helium previously required.

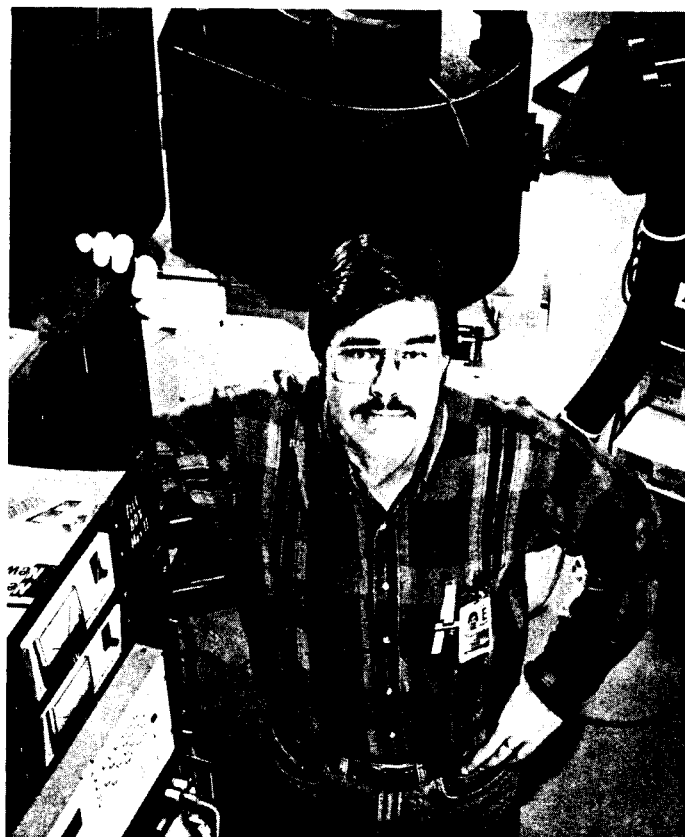
However, the promise of these materials is being realized more slowly than expected, as their brittleness makes them difficult to work with. Equally daunting has been the challenge of understanding how they work.

At BNL, experimentalists at the High Flux Beam Reactor and the National Synchrotron Light Source (NSLS), as well as theorists, have gained international renown for their work on high-temperature superconductivity. To describe some of the new ideas and excitement generated by this fundamental research, one of the researchers, Physicist John Tranquada, will give the 313th Brookhaven Lecture on Wednesday, February 14.

Tranquada, who is in the Physics Department, will talk on "Superconductors of a Different Stripe," beginning at 4 p.m. in Berkner Hall. He will be introduced by John Axe, Head of BNL's Center for Neutron Sciences.

Tranquada received his B.A. in physics at Pomona College in 1977 and his Ph.D., also in physics, at the University of Washington, in 1983. After three years doing postdoctoral work with the X11 participating research team at BNL's National Synchrotron Light Source, he joined the Lab's Physics Department as an assistant physicist in 1986. Two years later, he became an associate physicist; then, in 1990, was named Physicist and granted tenure in 1992.

A specialist in condensed-matter physics, Tranquada has for some years centered his research interests on neutron-scattering experiments looking at magnetic fluc-



John Tranquada

tuations in high-temperature superconductors. Cited for outstanding scientific accomplishment in solid-state physics in 1988, he was a member of one of the two BNL groups that were among the winners of the U.S. Department of Energy Materials Sciences Research Competition. His affiliations include the American Physical Society and the American Association for the Advancement of Science.

After the lecture, all are invited to join Tranquada for discussion and refreshments. Those wishing to have dinner with the speaker at a restaurant off site may call Bill Morse, Ext. 3859.

— Liz Seubert

Freedom of Information Act Request

Under the Freedom of Information Act, a member of the press recently requested information about an incident that occurred at the Alternating Gradient Synchrotron (AGS) on April 16, 1990, which is recapitulated as follows:

As reported on the front page of the Brookhaven Bulletin, April 27, 1990, the AGS was shut down suddenly that April 16 when the beam of protons met an obstruction: a brass plug, called a beam diffuser. The diffuser was in the way as the beam was being extracted from the main ring and sent down a beam line to an experiment.

The plug was to stop any scattered radiation from going down the experimental line when that line was not in use. Since the line was in use, the plug should not have been there, so it stopped the entire beam and resulted in an increase in radiation levels. About two minutes after the problem occurred, the AGS was shut down.

The Lab filed a preliminary notification of an unusual occurrence with the U.S. Department of Energy (DOE). At that time, the Tiger Team, a group of independent environmental safety and health experts assembled by DOE to inspect all DOE facilities, was at BNL, and they were also informed. The AGS and BNL's Safety and Environmental Protection (SEP) Division immediately began an investigation.

They found that most of the radiation had been absorbed by the shielding that surrounds the AGS ring and beam lines. To measure the amount emitted through the shielding, the incident was recreated at noon next day.

The radiation dose rate turned out to be 300 millirem (mrem) per hour. Because the incident lasted only two minutes, had someone been exposed to this radiation for the entire period, that person would have received a dose of 10 mrem. A standard chest x-ray is 10 mrem.

A six-person, independent DOE committee came to the AGS May 14-18, 1990, and it recommended a restart of the facility in July after changes had been implemented. These included stronger management support, more formal training, and development and implementation of formal protocols for operations.

Throughout the summer of 1990 at the AGS, protocols were written and personnel trained in the new, formal procedures. In September, a second, 11-person team confirmed that the new requirements were well in place. Their report was issued in two parts in October.

"We had excellent cooperation from all concerned," noted Derek Lowenstein, AGS Chairman. "The new training and reporting procedures resulted in a safer mode of operation."

The AGS-SEP investigative teams filed their final report with DOE on November 28, 1990, and the AGS was approved to restart in January 1991.

Transferring Transferred Technology



Roger Stoutenburg

Standing in front of a model of BNL's Relativistic Heavy Ion Collider in the lobby of Bldg. 1005 are some of those involved in the Accelerator Production of Tritium (APT) project who visited BNL in December and their hosts: (from left) Stephen McConnell, Westinghouse Savannah River Company (WSRC); Ken Cooper, U.S. Department of Energy (DOE), Savannah River; APT project leader Paul Lisowski, Los Alamos National Laboratory; Hans Ludewig, BNL; Kevin Hall, DOE, Savannah River; Gregory Van Tuyle, BNL; Joseph Cohen, WSRC; and Doug Fisher, BNL.

To fulfill the need for tritium to maintain the nation's dwindling stockpile of nuclear weapons, the U.S. Department of Energy (DOE) recently announced that it is evaluating two tritium-production technologies: one that would use an existing commercial nuclear power plant, and another that would require the building of a new accelerator at DOE's Savannah River Site (SRS) in South Carolina, which would come on line around 2007. Since the early 1950s, the primary mission of SRS has been to produce tritium and other basic materials used in the fabrication of nuclear weapons.

The Los Alamos National Laboratory (LANL) in New Mexico has been given the tasks of developing and demonstrating the linear accelerator for the accelerator production of tritium (APT). For the conceptual design and engineering design and development of such a machine, LANL has teamed with three national labs, including Brookhaven. Part of the defense-related work at the Lab that accounts for less than 2 percent of BNL's budget, this research is being undertaken within the Safeguards, Safety & Nonproliferation Division of the Department of Advanced Technology.

If built, the APT facility will center about a 1.6-kilometer- (1-mile-) long linear accelerator with a proton beam. To learn from BNL's experience in building large particle accelerators, several researchers involved with the APT project toured BNL's ongoing accelerator-construction project, the Relativistic Heavy Ion Collider (RHIC), in December.

While RHIC will be a research collider with beams of heavy ions, the RHIC Project's experience in transferring technology through contracting with private industry, and in project management and quality assurance were of interest to the APT group. Members of the APT project also hope to learn from the RHIC experience with superconducting magnets, since, if APT is selected, then it could be upgraded to use those more energy-efficient magnets to guide and focus its beam.

— Marsha Belford

BERA Concert Chamber Music by Smetana, Schumann

The next special BERA concert will feature young artists from the Department of Music at the State University of New York at Stony Brook, performing chamber music of Bedrich Smetana and Robert Schumann. The concert will be held on Tuesday, February 13, at 8 p.m. in Berkner Hall.

The program will include two of Smetana's compositions: *From My Homeland*, for violin and piano, and *Trio in G minor, Op. 15*, for piano trio. Also featured will be Schumann's *Fantasia in C major, Op. 17*.

All are invited, and the suggested donation is \$6 per person.

Telephone Update

Official Exchange Change

On or about today, February 9, the Lab's telephone exchange is officially changing to 344, from 282 and 341. In addition, the Lab's main telephone number will now be 344-8000, instead of 282-2123.

Therefore, tell regular, off-site callers of the exchange change, as, over the next six months, those who dial a 282- or 341- number will hear a NYNEX recording informing them of the new 344 exchange and asking them to redirect their calls to it.

Also, do not forget that the new exchange must be reflected in stationery, business cards, etc.

Questions regarding the change may be directed to Cathy Lombardo, Ext. 7099.

Go on a Personal Calling SPREE

As of this week, the BNL telephone operators can no longer place personal, or calling- or credit-card calls for employees and guests. As a result, callers will need to place their own calling- or credit-card calls, or use prepaid telephone calling cards for personal calls.

Calling- or credit-card calls are usually made by dialing the 800 number of the desired long-distance company and entering the number being called, then the card number plus a personal identification number. Prepaid telephone calling cards are used by dialing an 800 number, keying in the card number, and then dialing the number of the party being called.

Sprint SPREE prepaid calling cards, which permit domestic or international calling, may now be purchased from the BERA Sales Office, Berkner Hall, weekdays, 9 a.m. to 1:30 p.m.

Outreach Workshop

How to Care for Your Aging Parents

Just when they graduate their children from the house, many adults find themselves in a reverse-parenting role: Due to their parents' advanced age or ill health, their parents move in, and these adults find themselves parenting their parents.

"Caring for Aging Parents: Relatives, Relationships and Community Resources" will be addressed during the next Outreach workshop. Sponsored by the Employee Assistance Program (EAP) of the Occupational Medicine Clinic, the talk will be given by psychotherapist Linda Costanza on Friday, February 16, at noon in Berkner Hall.

In addition to reviewing how to determine when an elderly relative needs help and what community resources are available for helping older citizens, Costanza will discuss how to facilitate communication between the relative needing help and others in the family, how to deal with interpersonal conflicts among the relative's children, and how the caregiver can cope with unrealistic demands and emotional stress.

A psychotherapist with 23 years of experience, Linda Costanza, CSW, is the campus coordinator of Long Island University's master's program in gerontology. Past president of the Suffolk branch of the National Association of Social Workers, she was named the branch's Social Worker of the Year.

To register for this workshop, return the completed bottom portion of the Outreach flyer recently sent to all employees to EAP Staff Psychologist Dianne Polowczyk, Bldg. 490. For more information about EAP and its Outreach workshop series, call Ext. 4567.

Motor Vehicle Sale

Through sealed bidding with the General Services Administration (GSA), 35 BNL vehicles are available for purchase. Including pickups, vans and station wagons, these vehicles

may be inspected at Bldg. T-87 on Monday, February 12, from 9 a.m. to 3 p.m. Bid forms are also available at Bldg. T-87, and bids must be received by GSA by Thursday, February 22. For more information, call Jerry Quigley, Ext. 4527.

Groundwater

(cont'd.)

homes to be connected to water mains. BNL has provided bottled water to the other three.

Each well's water was tested for over 90 chemicals, metals and other parameters, and for the radioactive hydrogen isotope tritium. According to SCDHS, if a well's water has been tested and found to meet state standards, then it is safe to drink and use.

County: TCA in Wells Not BNL's

Though community activists and the media have named the Lab as the source of the drinking-water contamination found in the private wells, county health officials have stated publicly that the plume of TCA currently affecting the five North Shirley homes is not attributable to BNL.

This plume, SCDHS officials say, is almost certain to be linked a former occupant of the industrial park south of the Lab with a history of documented chemical spills.

"This contamination is being found in wells at around 100 feet below the surface," said SCDHS Supervisor, Bureau of Groundwater Resources Mar-

tin Trent. "The chemical parameters found, as well as the location and depth of the contamination, are identical with the plume from the industrial park."

He explained that SCDHS has monitored the industrial park plume since 1990, using monitoring wells and samples taken from private wells. "The recent finding of 1,1,1-trichloroethane in these five wells is consistent with what we've learned already," he explained. "The county has dealt with larger plumes with greater impacts in the past."

BNL Plume Plans

BNL and SCDHS are also monitoring chemical plumes north of the North Shirley neighborhood, under the Lab site and just south of BNL's southern boundary. "These plumes, which are attributable to past Lab activities, would in all likelihood be much deeper underground by the time they reached this neighborhood," explained Trent.

"However," he continued, "we are aware that BNL is responsible for chemical contamination in the groundwater under its site, and we intend to monitor the situation to ensure that

the plumes are addressed promptly."

The magnitude of BNL's plumes is being studied by BNL's Office of Environmental Restoration (OER) and SCDHS through an extensive groundwater characterization program. Now, public comments are being taken on OER's proposed remediation plans for Operable Unit (OU) I, which includes groundwater in the southern portion of BNL's site.

Once the comment period ends March 4, OER will compile all comments on the OU I plan, whether written or verbal, into a decision document that will be available this spring. Those comments will be an integral part of deciding which technologies and approaches will be used to address the OU I groundwater contamination.

DOE Water Program Continues

DOE's Environmental Management Program, which provides funding for cleanup activities at BNL, has offered to pay for the public-water connections for hundreds of North Shirley homes now using well water that in the future could be affected by BNL contamination.

The number of homes receiving the offer was previously stated as 800, based on an estimate from a tax map. The actual hookup number is expected to be about 450 because of the number of vacant lots and pre-existing water-main connections in the area.

"The program is a precaution against future groundwater contamination, not a reaction to any current health threat," said Angela Harvey, the Division Director of the Environmental Programs and Projects Division in DOE's Brookhaven Group.

The North Shirley homeowners will be invited to register for public water connections during meetings with DOE representatives later this month. Connections to public water are expected to begin this spring, with all connections made by the end of the year.

Residents' concerns that they might waive their rights to legal recourse if they accept the DOE offer are unfounded, said DOE Counsel Joan Shands, Brookhaven Group: "The DOE is not requiring property owners to sign any document that will in any way interfere with or diminish their legal rights."

— Kara Villamil

MOJA droga ja Cie Kocham! Your bear.
 VALENTINE - All my love to my cutie-pie. Manny.
 KAREN - All my love all my life. Russ.
 DEAR BOBBY - I hope we have better times in the future than this past year. I love you, Patricia.
 TO MY TWO BEST FRIENDS - who are very special to me. Happy Valentine's Day. Love, The Black Turtle-neck.
 MIKEY - Happy Valentine's Day to the most lovable, happy, sweet, fun, adorable baby boy in the world! Mommy & Daddy.
 DEAR JUMBLEMAN - Can't wait for the spring. Baywatcher.
 MUFFIN - I love you more each day I am with you. You are my life. Always and forever, Muffin Lover.
 WILD BILL - The ole grey mares they ain't what they used t'be since you left the corral. Saddle up. Love, The Bimbettes.
 TEDDY BEAR - Thank you for finding me once again. I love you for who you are and for all you may become. 65543.
 MAIN MAN - Since the day I met you, my life has been the best! I love your power hugs. Vern.
 R.A.B. - Thank you for the "special" times we share. I'll love you forever! Your one and only, Chocolate Kiss.
 JACKIE - Winner says, loser does! I give up! Love, BH.
 ADD TO AN UTTERLY SAD HEN - the initials and the beast of Bodmin Springs forth, you love Thang.
 HAPPY VALENTINE'S DAY - to the two Hunny Bunnies who keep our Bellport house humming!
 DOE EYES - When I first fell in love with you, I thought our love was as good as it could get ... but it's only grown better with time. Your buck always, Love Irish.
 KELLY - You and me and baby makes three. Happy Valentine's Day. Love always, Ricky.
 ROO BEAR - I'm so glad you're you and you're mine, and I'm yours and we're so fine. So won't you be my Valentine? xos, roo squirrel.
 CASPER - Happy Valentine's Day! I'm so glad you came into my life. Together we can do anything!! Love ya.
 HONEY - Two and a half years since we said "I do" and we're still on our honeymoon! Love you always, your snuggle bunny.
 DEBBIE BLDG. 703 - Thank you for 8 yrs. of friendship. Thank you for listening. Your friend Patria.
 DEAREST - I will meet you at the "Sea of Love" on October 3, 1996. I promise to love only you forever! Happy Valentine's Day. Love SueSue.
 YOU'VE GIVEN ME THE MOST PRECIOUS GIFT OF ALL — unconditional love. I'll never ask for more. Your partner thru life. The Woobie Lover.
 JOYCE - Love you very much. R.H.
 TO MY BEAUTIFUL WIFE KAREN, AND TO ANGELA, PETER, PAMELA & REBECCA - Happy Valentine's. I love you, Poppy.
 MARY - I'm wishing you an outrageous Valentine's Day. You're as sweet as candy, which is surely dandy. R.P.
 TO MOMMY'S LITTLE ANGEL - Happy Valentine's Day!! Love always, Mommy. And to my Honey Bunny, I love you!!
 TO THAT MIGHTY GOOD MAN - who shoveled us out of the snow, the love you give will grow and grow. Juanita.
 JOHN-JOHN - What a wonderful friend you are — you love me even on my UGLY days. Love, Patsy.



A SWEETHEART MESSAGE TO MY VALENTINE IN MASTIC - Baby Patrick's Bestemor. "I love you."
 EDDIE BEAR - my main squeeze, my sunshine, but, above all, my best friend. We love you. J & Sandy.
 O.M. - Couldn't resist cutie pie! One year down, 17 to go? See what happens when you FILAFA? Blushing? 143BFF.
 DEAR SWEET CHEEKS - Thanks for making me feel human again. Love, Smiley, xxoo.
 SWEETIE - Life with you is soooo sweet. You're the cat's meow. Purr!!! Love, Koty's Mother.
 BUNNY - We've been through a lot, but that's over now, so let's move on. Happy Valentine's Day. Love ya, Me & your Little Purculator.
 LADY - It will get better sooner than you know. We have each other and that's all that counts.
 BUMBURY - Always looking forward to our evenings together, and to your amazingly imaginative presentations.
 AMY C.C. YANG - Happy Birthday and Happy Valentine's Day together to you. Mom, Happy Birthday!! Min, Sharon, Stephenie, Tsai.
 SWEETHEART - This truly is my best, and last, romance. How about Danford's on the 17th, to celebrate our first two years?
 TM - A flirt, then a fling, and now our first blind date! Happy Valentine's Day. Love PM.
 ROSES R RED - Violets R blue, a Valentine's wish just for you. Termie, Meister, Spides, the whole bunch, especially my bride. Love, The Krunch!
 JET AND PT - Daddy loves both of you.
 ROCKY - I know we never met, but I think we were made for each other. Meow! Love, K.C.
 KOKOPELLI - Doin' it right this year. You become Mrs. Breeze. Can't wait. Love you always! Promise! Breeze.
 HAPPY VALENTINE'S DAY TO MY ONE AND ONLY SWEETHEART - Hope to share my life with you always.

S.W. - Be my Valentine and I'll always be yours.
 SAMUEL - Here's to 30 years. Thank you for being my best friend. I love you very much. Patria.
 PRETTY SWF, VERY YOUNG 40 - seeks warm, caring, humorous, Eastern Suffolk, BNL SWM Valentine. Write POB 8, Upton, NY 11973.
 PPYNE - 40 might be just around the corner, but you're still as young as ever. "Only you." Love, Me.
 MUSTAFA - Our love keeps growing stronger. We are truly blessed. (Thanks BNL, Friendly service station, and God). Love, Pat.
 HONEY - Cupid has nothing on us where bows and arrows are concerned. We make a terrific twosome. Love forever, Darling.
 DEAR ANNA - Thank you for the love you've given me. Can't wait for the bundle of joy! Your Valentine, Tom.
 ME - You made me so very happy! I'm so glad you came into my life! Love ya Babe! MC.
 NEEN - All my love, all my life. J.
 TO MY TWO HONEY BUNNIES BOO AND BOO - Happy Valentine's Day and thanks for making mine sooo special!
 LAURENA - Our love is always with you. You've made us proud and never blue. Happy Valentine's Day! Love, Mom & Dad.
 SPEEDRACER & BEEBOP - You two will always be my special Valentines. I love you! Love, Porky.
 SWEETIE - Thanks for being a terrific dad and wonderful husband! All our love, Mommy & Robert.
 KATE - I know there are brighter tomorrows ahead for us — you will see them. I love you. Rich.
 MY DEAREST BIRD - Have I told you I love you? No still, always. From your Wind.
 YOU'RE THE ANGEL IN MY HEART - I think of you always when we're apart. Forever you'll be my Valentine.
 DEAREST JACKIE - I love you for many reasons, great and small, but most of all, I love you just because you're you. Love, Bruce.

TO MY CUTIE - You are absolutely wonderful. Thank you for being my friend and lover. Truly yours, CCWB.
 MY BUDDY - You have your life, I have mine, but, in my heart, you'll always be my Valentine. Your Buddy.
 TO OUR M. - Love ya always, H. and Sammy J.
 HAPPY VALENTINE'S DAY - to my one and only Buddy Boy. Love, Terri.
 SWEETIE - Our two hearts "collided" more than a year ago. And now we're on an "accelerated" course toward wedded bliss! Counting down to 8/24. Love, your HB.
 BILL - Happy Valentine's Day, DH. I love you with all my heart. Love, Becky.
 SHARON AKA BIKER BABE - I'll take you for a ride anytime. Happy Valentine's Day. Love, Mr. Nasty.
 DEAR HONEY-BUNNY, PRINCESS AND BUZO - Life would be worthless without all of you. I love you so much! Love, Neilly.
 LES - is backward for who my man is. A genuine friend says my psychic he is. Jody a gentle woman is his. Please open your eyes and see who this is.
 REM - Like the flowers need the rain, like the winter needs the spring, I need you. I luv you. MEM.
 ANNE - Our love gets stronger as we grow together. You will always be my special Valentine. I love you, David.
 NONA - Thank you for believing in me! You will always be my Valentine. Love, Bob.
 "J" - Thank you for that special day. It meant a lot. I will always remember. Your friend, always Ralph.
 CAM - My love, you see, follow you, follow me. Love you, Rich.
 WHITETAIL - You are my prize buck! Happy Valentine's Day. Love L.
 PRINCE - I like you more and more now that you are new and improved. xos, your dayling.
 OLIVIA - You have brought us sunshine during this cold winter, Happy First Valentine's Day! We love you. Mom and Dad.
 JUN - You are the sweetest honey bun there is, and I love you. Sha.
 LAURA - Happy Valentine's Day! and Happy Birthday! From your friends, David and Anne.
 BIKER HUNK - Yesterday I loved you; today I love you still. My heart tells me that I always will. Biker Babe.
 PANTHER - To our last Valentine's Day as the two of us. May we cherish it always, as we'll soon become the three of us. Loving you always, Mrs. B.
 OLD DOG - I'd like to teach you some new tricks. I love you more than words can say. Happy Birthday!! Your Little Vixen.
 RHODA - Free at last, now we can party and enjoy our love. Joe.
 LINDA JEAN - My lovely sweetheart, I've always loved you and always will. I miss you. Someday, my love. Always, Pooky.
 THE BOAT IS WHITE, the pool is blue, be my Valentine, and my dream comes true! Love always, your twin.
 CURTAINS OF MIST RISE, Revealing Dark Knight's presence. Fly to his embrace!
 MY 911B STUD - You're the love of my life. I appreciate all you do for me. I even "like" you! Kisses & hugs, Stinky.
 DAD - Thanks for being my bestest supporter and having faith in me. Love our chats, so call me more often. xoxoxo, your favorite daughter.

CCD MIX Meeting

The next Monthly Information eXchange (MIX) meeting sponsored by the Computing & Communications Division will take place on Wednesday, February 14, at 11 a.m. in Room B, Berkner Hall. Topics to be discussed include dial-in service, on-line phone book and lab mail, and the new EP-OCH backup system for distributed computing. All are welcome to attend.

OS/2 Users Meeting

The first meeting of the OS/2 Users Group will be held at 1 p.m. on Thursday, February 15, in the second-floor seminar room of Bldg. 515, the Computing & Communications Division. For more information, call Timothy Reaves, Ext. 7056.

Pick a Student

Between February 12 and 23, those interested in sponsoring a summer student this summer are invited to review the applications that have been submitted to the Office of Educational Programs (OEP), in the Science Education Center, Bldg. 438.

In the traditional summer program, junior and senior undergraduates receive ten-week research appointments, June 3 to August 9. This year, due to reductions in OEP's budget, sponsoring departments are asked to pay for each of their students' direct stipends and housing at, respectively, \$225 and \$101.50 per week. OEP will pay for students' round-trip travel and indirect stipend costs.

A special effort is made to offer minority students summer research opportunities at BNL. So, if your student choice is a minority, then you will substantively contribute to this effort. All requests for students must be submitted to department coordinators by February 28. For more information, call OEP, Ext. 4503.

Arrivals & Departures

Arrivals	
John A. Stehle.....	AGS
Departures	
Arthur F. Greene.....	RHIC
Bernard J. McAlary.....	Director's Off.
Reyad I.T. Sawafta.....	Physics
Peter B. Thomas.....	Physics
Ping-Chun Wang.....	Adv. Tech.

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

Look Again: Windows 95

The Computing & Communications Division (CCD) will again moderate a seminar on "The Pros and Cons of Windows 95" on Tuesday, February 13, from 10 to 11:30 a.m. in the CCD seminar room, Bldg. 515. Following a demonstration of Windows 95, its usability at BNL will be discussed. For more information, call Donna-Ree Rodriguez, Ext. 7261.

BWIS Meeting Effective Resumes

Nancy Sobrito, a senior human resources representative in the Human Resources Division, will discuss "Effective Resume Preparation" at the next meeting of Brookhaven Women in Science (BWIS), on Thursday, February 15, at noon, in Room C, Berkner Hall. All are invited; please bring your lunch.

Tennis Fun Night

The Tennis Committee is sponsoring a night of tennis fun from 7 to 10 p.m. on Saturday, March 2, at the Eastern Athletic Club, Montauk Highway, Blue Point. Four courts are reserved for BNL employees and guests, and their families and friends. Refreshments will be provided. The cost is \$20 per person, which must be paid by February 26. To sign up, call Om Singh, Ext. 5332, or Joe Carbonaro, Ext. 5139.



Do you have a message you'd like to get across to the BNL community? BNL Video, part of the Information Services Division, has all the know-how and equipment it takes to produce video segments on your topic and repeat them continuously on the video kiosk in Berkner Hall. Call Alex Reben, Ext. 3680, for more information.

In Stormy Weather: Dial 344-INFO*
 for information about BNL and the Child Development Center.
 *Dial the letter O, not zero!

Addled Addresses

- Brookha
- Brookhaven National Bank
- Rich Project
- Brookhaven Natl. Lad

BROOKHAVEN BULLETIN

Published weekly by the Public Affairs Office for the employees of **BROOKHAVEN NATIONAL LABORATORY**

ANITA COHEN, Editor
MARSHA BELFORD, Assistant Editor

Bldg. 134, P.O. Box 5000
 Upton NY 11973-5000
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The Brookhaven Bulletin is printed on paper containing at least 50 percent recycled materials, with 10 percent post-consumer waste. It can be recycled.

Basketball

Games on February 1

Scram 69		Storm Troopers 22	
Al Boerner	22	Alex Ratti	5
Tim Powers	12	John Jones	4
John Skonieczny	12	Robert Prophet	4
Gerry Shepherd	11	Ron Simpson	3
Jim Rank	8	George McKillop	2
Joe Barkwill	4	Frank Nocera	2
		Dave Riley	2

Three-point shots: Boerner (4), Powers, Ratti, Simpson.

Bulldogs 73		Mustangs 69	
Doug Aichroth	15	Wayne Cummings	22
Brian Hobson	13	Kiley Reynolds	17
Chuck Bennett	11	Greg Mack	12
Jerry Gaeta	10	Jim Desmond	10
Simon Worth	10	Charlie Edwards	3
Jeremy Middleton	6	Hal Vanderoef	3
Tracey Fountaine	5	Rich Domenech	1
Pete Ratzke	4	Jim Garrison	1

Three-point shots: Hobson (3), Bennett (2), Gaeta (2).

Bowling

Purple & White League

R. Eggert 223/221/217/661 scratch series, R. Wiseman 221/214/184/619 scratch, M. Guerci 219/214, Doug Fisher 209/204, M. Meier 199/191, D. Botts 190/171, J. McCarthy 226, B. Giuliano 216, P. Manzella 211, R. Picinich 191, M. Yanez 190, P. Callegari 190, M. Musso 189, S. Frei 185, A. Almay 184, K. Conkling 177, T. Blydenburgh 172, D. King 170, P. Pozzoli composed 5/7 split.

Red & Green League

R. Larsen 266/257/202/725 scratch series, R. Mulderig 249/219/216/682 scratch, K. Asselta 222/210/205/637 scratch, A. Warkentien 267/231/688 scratch, R. Eggert 222/214/630 scratch, G. Mack 218/202, G. Weresnick 213/203, E. Larsen 201/200, D. Fisher 226, N. Besemer 221, R. Raynis 219, J. Griffin 216, H. Arnesen 213, E. Sperry 202, H. Dawson 201.

Scotch Doubles

Enjoy a day of bowling fun at the Scotch Doubles Tournament, to be held on Sunday, March 3, at 1:30 p.m. sharp, at Port Jeff Bowl. The cost of \$30 per couple includes bowling, prizes and buffet. The tournament is open to BNL employees and their immediate family members.

Applications are available at the BERA Sales Office, Berkner Hall, weekdays, 9 a.m. to 1:30 p.m. Deadline for applications is Friday, March 1. If you need a partner or have any questions, contact Maryann Musso, Ext. 2352, or Debbie Botts, Ext. 7218.

Volleyball

Standings as of February 1

Open League		League I	
Monday Maulers	33-9	Bikers'n Spikers	34-11
Pass, Set & Crush	35-10	Rude Dogs	34-14
Far Side	18-24	Scared Hitless	24-21
Spikers	16-26	No Names	19-29
Bud Hitters	6-39	Underdogs	6-42

League II		League III	
Spiked Jello	30-6	Silver Bullets	27-6
Safe Sets	28-8	Joy of Sets	22-11
Fossils	22-14	Just 4 Fun	19-11
Monday Nite Live!	20-16	Upton Ups	19-14
Jolly Volleys	15-21	Harlem Knights	17-16
Nuts & Bolts	14-22	High Volley'em	15-18
Volley Folly	11-25	DO-DAT	11-19
Night Court	4-32	New Comers	8-25
		OER	6-24

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 Human Resources Division lists new placement notices. The purpose of these listings is, first, to give employees an opportunity to request consideration for themselves through Human Resources, 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 (344-7744), for a complete listing of all openings.

Current job openings can also be accessed via the BNL Home Page on the World Wide Web. Outside users should open "http://www.bnl.gov/bnl.html", then select "Scientific Personnel Office" for scientific staff openings or "Employment Opportunities" or "BNL Human Resources Division" for all other vacancies.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

DD 0580. TECHNICAL POSITION - (term appointment) Requires an AAS in electronic technology or equivalent, and extensive experience in the assembling, testing and troubleshooting of complex electronic assemblies, including rf circuits. Must have the ability to work from schematics, mechanical drawings and verbal instructions. Responsibilities will include rf, analog and digital circuit design and pc-board layout. Experience with CAD is desirable. RHIC Project.

DD 0482. MASTER WELDERS - (term appointments) Works on various materials from prints, sketches or verbal instructions. Sets up and welds, cuts, brazes, pours lead, metal sprays and performs similar or related operations on jobs that require the application of individual ingenuity in solving problems of method, or results required, where previous standards of operation have not been established. Performs layout, preparation, setup, measurement, assembly and installation, and may repair equipment as required. Central Shops Division.

NS 3357. QA/ENGINEERING POSITION - Requires a bachelor's degree or equivalent in quality management or organizational development, and at least five years' experience in the development and implementation of quality management programs. Responsibilities will include the review and analysis of mission, functions, organization design, design and development of quality improvement projects and project management during implementation. Plant Engineering Division.

NS 0579. COMPUTING/ANALYST POSITION - Requires a BS in computer science or other appropriate field and a minimum of three years' experience in a research environment. Expertise in networked file systems, NFS and AFS, and UNIX system-support required. Familiarity with X-windows and FORTRAN, C and C++ necessary. Experience with Hierarchical Storage Management systems, databases or robotic storage devices a plus. Will participate in user and technical support, the operation of the RHIC Detector Group Computing Cluster, and the design and implementation of the RHIC off-line data-analysis facility. RHIC Project.

NS 3824. TRAINER POSITION - (term appointment) Requires a bachelor's degree, preferably in a technical field, and several years' experience related to industrial safety principles and applications, including DOE, OSHA, ANSI and ASME standards. Duties will include analyzing and designing a series of occupational safety and health courses for supervisors and managers. Will be involved in pilot implementation and revision of course material to ensure Laboratory applicability and acceptance. (Reposting). Safety and Environmental Protection Division.

Motor Vehicles & Supplies

95 HONDA DEL SOL - black, full y loaded, mint, very low mileage, looking to transfer lease, 18 mos., \$299/mo., or sell. Tony, 874-9195.

93 MAZDA 929 - ivory w/beige leather int., 42k mi., still under warranty, mint cond., \$19,000. Andy, Ext. 2134 or 722-3368.

92 VW PASSAT - 45k mi., manuf. warranty, \$8,600. Joe, 331-0945.

92 DODGE PICKUP - 3/4-ton, low mi., extended cab, 70k/7yr. warranty, LE package, \$14,500. Walter, 732-1913.

88 CHEVROLET SPECTRUM - 5-spd., new brakes, new am/fm cass., runs well, high mi., \$1,800. 929-3774.

88 BRONCO II XLT - 4WD, a/t, low mi., loaded, excel. cond., new brakes, \$6,000. Ext. 3334 or 744-2404.

88 OLDS FIRENZA - 4-cyl., 4-dr., power, a/t, ac, am/fm, tilt, cruise, clean, \$2,000. Gabor, Ext. 3097.

87 TOYOTA CAMRY - s/w, 4-cyl., 5-spd., ac, cruise, am/fm, orig. owner, excel. cond., 124k mi., \$2,250. Pete, Ext. 5114.

86 FIREBIRD - a/t, V-6, ac, T-tops, hwy. mi., orig. owner, must sell, \$1,200. Ext. 3827 or 878-1617.

86 JEEP CHEROKEE LAREDO - a/t, V-6, tow package, 4-dr., new paint, \$4,800. Ed, Ext. 7251 or 765-4147.

83 BUICK LESABRE - good cond., \$2,000 neg. Tony, Ext. 2471 or 732-8192 after 6 p.m.

82 CHEVY BLAZER - 350 eng., runs well, asking \$2,500. 727-9648.

80 MUSTANG 302 - posi rear, new brakes, other parts, black, sunroof, m/t, runs well. Tammy, 924-8626.

67 RAMBLER - 2-dr.; '64 Rambler wagon; '63 Rambler classic, 4-dr., all 6-cyl., a/t, spare parts. Joe, 281-7683.

MOTORCYCLE ACCESSORIES - Bell full-face helmet, Paws handlebar covers, cover, \$125/all. Andy, Ext. 5786.

BUCKET SEATS - for '87 Toyota 4-Runner, gray, good cond., \$200 or best offer. Tom Seda, Ext. 7625.

TIRES - B.F. Goodrich, T/A, all terrain, 33-12.50x16.5, 2, \$40/both. Bart, Ext. 2005 or 924-6761.

CAP - for full-size pickup, \$125. Frank D., Ext. 2022 or 399-4480.

Boats & Marine Supplies

19' SEAWAY - cuddly cabin, 90-h.p. Mariner, excel. cond., \$6,800. Eddie, 727-7666.

Furnishings & Appliances

BED - full-size, mattress, box spring, excel. cond., 1 1/2 yrs. old, \$100. Danny, Ext. 4677 or 286-9700.

CHEST OF DRAWERS - dresser, mirror, antique blue, \$110; microwave, 1.6 cu., ft., \$50; bumper pool table, \$50. 473-6546.

COUCH & LOVESEAT - couch opens to queen size bed, Serta mattress, never used, gray tweed, good cond., \$100. Donna, 924-4282.

COUCHES - 2, convertible. Ext. 4519 or 929-8453.

DINING TABLE - hardwood, 4 chairs, china cabinet, \$550; sofa, \$40; washer/dryer, \$50; lawn mower, \$100; more. Joe, Ext. 5855 or 689-7462.

FREEZER - frostless, 32"x30 3/4"x65 1/8", built-in safety lock, white, new, evaporator, fan, works well, \$150. Ed, Ext. 7251 or 765-4147.

FREEZER - GE, 18 cu. ft., upright, with built-in lock, excel., neg. 794-8386.

FURNITURE - bunkbed w/mattresses, pine, \$300; queen futon, pine, \$200; table, 4 chairs, oak, \$160; queen mattress, \$50; desk, \$45. Aron, 821-6856.

FURNITURE - dining room, living room, TVs, VCRs, chairs tables, Persian rugs, beds, etc. TJ, 744-3308.

HUTCH - 2-piece, top section 70"Wx12"Dx42"H, bottom section 83"Wx18"Dx33"H, 5 drawers, adjustable shelves, tambour doors, enclosed mirrored bar, \$125. Bill, 281-6498.

LOVESEAT - chair, ottoman, Colonial, earth-tone floral pattern, excel. cond., \$100. Bart, Ext. 2005 or 924-6761.

MATTRESS - twin, boxspring, metal frame, like new, \$75; window shades, woven wood, 2 beige, 3' wide, \$15/pair, 1 blue, 6' wide, \$15/ea. Mike, Ext. 7941.

MICROWAVE - Gold Star, medium size, model #ER503M, works well, \$50/neg. Pat, 878-9117.

Audio, Video & Computer

AMPLIFIER - ADS P-82, power, 2 or 4 channel output, excel. cond., \$100. Ext. 2134.

CAMCORDER - Sharp Slim Cam, gently used, \$400. Kathy, Ext. 2267.

COMPUTER - Syntax 486DX2/80, 520 MB, 8MB, 14" SVGA, CD ROM, 9624 fax modem, speakers, printer, keyboard, more, \$1,900. Bill, Ext. 4988 or 698-4882.

COMPUTER - Commodore 64, 2 drives, printer, monitor, software, books, magazines, \$300/all. Richard, Ext. 3804.

DIGITAL PIANO - Roland KR-3000, 88 keys, built-in drums, great sounds, v.g. cond., \$2,000. Eileen, Ext. 2399.

MOTHERBOARDS - 486DX33, 256k cache, 4 MB RAM, \$200; 8MB RAM, \$300. Tom, Ext. 5258.

STEREO - Proton, amplifier, rec., CD player, cass., 2 Boston speakers. Janet, Ext. 2345 or 929-3910.

RADIO - ICU 16, hand held, UHF, covers, battery rapid charger, 512 mhz, programmable, \$350. Steve, 345-6960.

SOFTWARE - IBM OS 2, Warp, not registered. Philip, Ext. 3267.

TV - Toshiba, 32", model CX32D60, 1 yr. old, must sell, all options, \$800. Mike, 744-7360.

VCR - Sharp, new head, \$50. George, Ext. 3783.

Sports, Hobbies & Pets

CAMERA - Canon EOS 630, 50mm/f2.5 macro, 20-35mm Tokina, 35-135mm Canon VSM, more, all like new, \$899 firm. Bob, 369-3098.

EXERCISE EQUIPMENT - stepper, \$55; stationary bike, \$75. Tom, Ext. 7287 or 744-4535.

GOLF CLUBS - Calloway Big Bertha driver, graphite shaft, \$125; Ram Zebra putter, \$40. Hank, Ext. 3042 or 744-9812.

PARROT - heartbroken, must sell, small dusky conure w/cage, \$200. 331-4336.

PET CRATE - 36"Lx26"Wx27"H, hardly used, like new. Mike, 744-7360.

PING-PONG TABLE - good cond., best offer over \$100. 286-3742.

PUNCHING BAG - 75 lbs., Everlast, good cond., \$30. Tom, Ext. 7625.

SKI BOOTS - Raichle, rear-entry, single buckle, men's size 9-9 1/2, excel., used 5 times, \$25. Mike, Ext. 7941.

SKI BOOTS - Nordia, men's, size 13, v.g. cond., \$25. 924-0592.

SURFBOARD - 6'5", lightweight, Spectrum, tri-fin, \$150. Terry, Ext. 2943.

Tools, House & Garden

BANDSAW - 10", Sears, good cond., \$75. Frank D., Ext. 2022 or 399-4480.

CARPET CLEANER - Bisell, like new, hardly used, \$50. Kathy, Ext. 2267.

CHAINSAW - Craftsman, 21" bar, 3.7 C.V., automatic oiler, \$125. Bart, Ext. 2005 or 924-6761.

DRILL PRESS - Rockwell, magnetic, 1/2" chuck, hardly used, excel. cond., \$200. Andy, Ext. 2134 or 722-3360.

FIREPLACE INSERT - wood burning, \$500; freezer, GE, 6 cu. ft., \$75; electric baseboard heaters, 2, w/thermostat, \$25. Chris, Ext. 2972 or 929-5008.

ROUTER - Craftsman, w/plastic case, used once, \$50. Ron, Ext. 2000.

SNOW CHAINS - new, in bag, fits small snow blowers, \$15. Bart, Ext. 2005 or 924-6761.

STOVE - wood burning, \$250 neg. Andy, Ext. 5786.

WATER HEATER - electric, Reliance 501, 52-gallon, used 2 1/2 yrs., works well, \$75. Ed, Ext. 7251 or 765-4147.

WATER TANK - Domestic 80 gal., well-control w/fittings, like new, \$75. John, 924-9282.

Real Estate

Real Estate advertised for sale or rent is available without regard for the race, color, religion, sex, age, national origin, disability or veteran status of the applicant.

For Rent

BELLPORT - large 1-bdrm. upstairs apt., l/r, kit., full bath, 1-car gar., single, nonsmoker, \$750/mo. incl. all. Jim, 744-2095.

BLUE POINT - 1-bdrm. apt., l/r kit., first floor, furn. or not, \$700 or \$650, w/util., sec., ref. Peter, Ext. 6377 or 363-6375.

MIDDLE ISLAND - 1-bdrm. garden apt., upper w/furnace, full bath, new appli., tennis, pool, laundry, ac, \$650/incl. heat, will rent with option to buy. 821-5484.

CENTER MORICHES, S - sunny 1-bdrm. apt., 2 priv. ent., fully furn., off street pkg., cable ready, single, nonsmoker, pet ok, \$575 incl. all + sec., avail. immed. Ext. 4979 or 878-6760.

MASTIC - 2-bdrm. bsmt. apt., 15 min. from Lab, priv. ent., spacious, l/r, mod kit., no smoking, \$650. mo. + sec. incl. util., cable. Ext. 3496 or 399-3381.

MASTIC - 2-bdrm. apt., w/w, priv. ent., prof., nonsmoker, no pets, cable, \$675 incl. all., sec. Ext. 4938.

MIDDLE ISLAND - new, 1-bdrm. apt., eik, full bath, l/r, w/w, thermo., storage, priv. ent., fenced yard, parking, cable, single/couple, no pets, avail. immed., sec., ref., \$725/all. Edie, 696-2507 after 4:30.

MIDDLE ISLAND - 1-bdrm. apt., bath, l/r, thermo., storage, w/d, d/w, 10 min. to Lab, avail. 3/1. Michael, 423-3320.

MILLER PLACE - room in home, nonsmoker, quiet & professional neighborhood. Ext. 5740 or 744-8386.

ROCKY POINT - 3-bdrm. ranch, OHW, eik, l/r, fin. bsmt., 100'x100', fenced yard, avail. 3/1, \$900/mo. + util. Mike, Ext. 3434.

ROCKY POINT - 2-bdrm., l/r, kit., bath, no pets, no smoking, \$850/mo., plus util. Ext. 3749.

ROCKY POINT - 2-bdrm. house, enclosed porch, OHW, close to Lab & shopping, no pets, nonsmoker, \$750/mo. + util., sec. Ext. 3884 or 325-1907.

SHOREHAM - 3-bdrm. ranch, fam. rm., l/r, d/r, large Florida rm., new kit., 2 full bath, fp, furn/unfurn., 10 min. to Lab, fenced yard, \$1,400/mo. + util. 821-6856.

SOUND BEACH - room for rent, large house, share kit., bath, l/r. Sean, 744-5697.

SOUND BEACH - 3-bdrm. ranch, 1 bath, large l/r, d/r, work kit., full bsmt., w/d hook up, new carpet, Miller Place SD, \$900/mo. + util., 1 mo. sec. 744-2821.

WADING RIVER - large studio apt., unfurn., full kit., near beach, quiet neighborhood, 15 min. to Lab, \$500/mo., elect & heat incl. Bill, 722-4489.

YAPHANK, E - spacious, 1-bdrm. bsmt. apt., large airy bathy, modern kitchen, w/w, cable, 8 min. to Lab, quiet residential street, nonsmoker preferred, \$525/all. Donna, 924-9282.

CATSKILLS - Villa Roma resort, avail. 1-2 bdrm., full kit., skiing, snowmobile, entertainment, 2/13-18. Jim, Ext. 5537.

HILTON HEAD, SC - condo, sleeps 6, fully furn., 2 bdrms., 2 baths, tennis, beach, golf nearby, \$350/week through March. Guy, Ext. 3147 or 689-5378.

KEY WEST, FL - April 13-27, 1-2 wk. timeshare, sleeps 2-6, priv. beach, pool, kit., w/d, gym, hot tub, marina, boat rentals, in old town. Sheryl, Ext. 7716.

WARDSBORO, VT - 9 mi. Stratton & Mt. Snow, sleeps 8, 3 bdrm. & loft, 2 baths, fp, jacuzzi, \$125/nights. Marilyn, 360-3020.

For Sale

CALVERTON - mobile home, Thurms estate, new roof, siding, window, Florida rm., outside shed, 2 bdrms., 1 1/2 baths, price neg. Ext. 4461 or 472-2067.

E. PATCHOGUE - 3-bdrm. cedar ranch, S. of S. Country Rd., quiet neighborhood, mint cond., \$117,000. Ext. 3291 or 589-3020.

N. SHIRLEY - 3-bdrm. ranch, 2 baths, lg. eik, l/r w/cathedral ceilings, full bsmt., fenced 1/2 acre, 2 large decks, pool, all new. John, Ext. 7313 or 395-5922.

RIDGE - Leisure Village, Greenbriar, 2-bdrm., new w/d, ac, asking \$65,000. Diane, Ext. 3670.

ROCKY POINT - Tides, 3 bdrms., 2 1/2 baths, l/r, d/r, foyer, new kit., newly renovated, new appli., fin. bsmt., 2.5 gar., backyard, fenced w/patio, priv. beach, \$162,000. 821-2743.

ROCKY POINT - 2-story chalet, 1.23 acres, 22 Prince Rd., \$169,000. Ruth Ann Lutz, Ext. 7774 or 929-6235.

SMITHTOWN - 3-bdrm. ranch, l/r, d/r, eik, den w/fp, 3 full baths, fin. bsmt., fenced yard, 1-car gar., spare room, \$172,000. 689-9869 eves.

SOUND BEACH - 3-bdrm. cedar ranch, new windows, doors, skylights, cathedral ceilings, l/r w/fp, detached gar., 80'x125', landscaped, fenced yard, MP5D. 744-5387 eves.

WADING RIVER - Clarendon, custom 4-bdrm. Colonial, 2 1/2 baths, encl. porch, 1 acre, hardwood floors, mint cond., SWRS,