

# The Village Courier

 national accelerator laboratory

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## SECOND GENERATION OF BUFFALO STARTS LIFE ON NAL RANGE

A new member of the NAL family was born about noon Saturday, May 29, with some fanfare and considerable excitement. One tiny buffalo was added to the Laboratory's wildlife population. As a result, NAL now has 19 head of buffalo.

Robert Hines, NAL Farm Manager, reported that a fawn colored bull calf was "delivered" in the grazing area on the Feldott farm off Batavia road. The mother is "Short Horns," a six-year old, imported to the NAL site last year from Colorado.

The newcomer's weight is 50-60 pounds. So far, it is unnamed. And, it is reported that mother and baby are doing well.

It was the first calf born in the Colorado herd since it came to NAL. The new addition brings the herd in the Feldott grazing area on the south side of Batavia road to two heifers, two cows, two bulls and the new calf...for a total of seven buffalo.

On the north side of the road is a herd obtained from the state of Illinois. It has 12 head -- three bulls (the oldest is 7 years old), 5 cows, 1 bull calf and three heifer calves. One bull calf and three heifer calves are from the four cows; the calves were born in 1970.

The birth provided a busy Memorial Day week-end for Rudy Dorner, NAL Site Manager, and Hines. As Mrs. Jo Gustafson reported in the Aurora Beacon-News:

"It would have been quieter if the father had been clued in on what was going on. As it was, the excitement was too much for him and he stormed to a point where there was danger that the calf would be trampled to death. Extra 'delivery room' equipment meant fire trucks, hoses and squad cars to keep things orderly and cool the tempers.

"When the star of the show decided to appear the protective instinct of its mother caused pandemonium again. More trouble and more fire trucks and hoses. She was 'protecting' whether it was from men, fire hoses, squad cars or another buffalo."

There was one problem after another. Finally, the keepers managed to steer the new mother and the 30-inch-high buffalo back to the buffalo barn -- a makeshift maternity ward.

The baby buffalo thus joined 50 cows and 51 calves (one set of twins) and six horses (belonging to the NAL-associated Indian Creek Riding Club) on the 6,800-acre NAL site. The Aberdeen Angus cows belong to Larry Breon, a Batavia area farmer, who has been granted a license to graze the cattle on NAL pastures for two years.



...Mom and son are doing well, thanks...

Photo by Jim Engel, Aurora Beacon News

## ARGONNE OPEN HOUSE TO BE HELD SATURDAY, JUNE 19

NAL, DUSAF and AEC employees are invited to attend the Argonne National Laboratory open house Saturday, June 19. Argonne's grounds will be open from 9:30 a.m. until 4:30 p.m. The Open House will be partly in observance of Argonne's 25th anniversary. AEC Chairman Glenn Seaborg will give an informal speech at 11:30 a.m. A brass band will play and the cafeteria will dispense hot dogs, hamburgers, lemonade and other goodies.

FILM ANALYSIS FACILITY GAINS EXPERTISE FOR BUBBLE CHAMBER EFFORTS

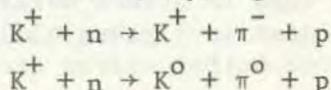
*(This is the second article on NAL's Film Analysis Facility. It was written with the cooperation of Ray Hanft, Dixon Bogert (Physics Research), Ernest Malamud (Main Ring), Richard Mobley (Beam Targetry), and Roland Juhala (Booster).)*

In simple terms, a bubble chamber is a device used for the detection and the study of elementary particles and nuclear reactions. Charged particles from an accelerator are introduced into a super-heated liquid, each forming a trail of bubbles along its path. The trails are photographed, and by studying such pictures scientists can identify the particles and analyze the nuclear "events" in which they originate.

As part of NAL's experimental facilities, work is progressing on a Neutrino Laboratory. It will include a Bubble Chamber area on which foundation work has been completed. A special Bubble Chamber group, under the direction of William B. Fowler, has been concerned with the design of this facility which will have a track length of 15 feet. Work on this target area is scheduled for completion in the summer of 1972; however, it will be available for improvised experimental use several months earlier. It is expected that the bubble chamber will be in operation by January of 1973. In addition, it is expected that the 30-inch bubble chamber which NAL is receiving from the Argonne National Laboratory will be in operation at NAL next November.

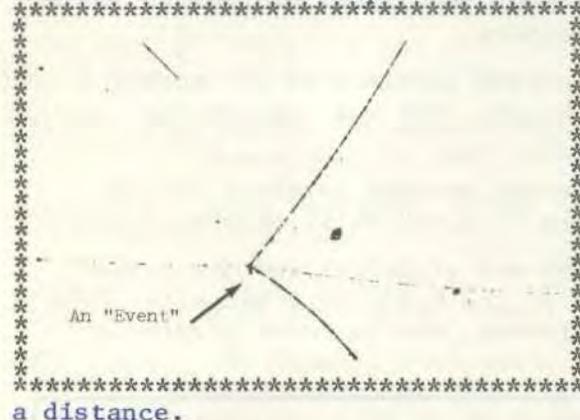
In preparation for the output of photographs from NAL's Bubble Chamber, the Film Analysis Facility in the NAL Village is gaining expertise while scanning the results of research undertaken at other laboratories.

At present, NAL "scanners" are concerned with analyzing an experiment designed to obtain large numbers of events of the types:



Such events when interpreted in terms of a specific theoretical framework can be used to reveal information on the interaction between K and  $\pi$  mesons.

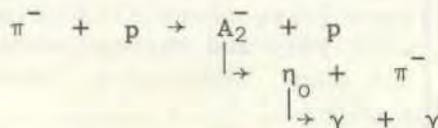
At the Bevatron (the 6 BeV proton accelerator at the Lawrence Radiation Laboratory in Berkeley, California) a beam for selecting  $K^+$  mesons passed through a 25-inch diameter bubble chamber filled with liquid deuterium and the chamber was photographed. A total of 800,000 sets of stereoscopic photographs was taken. The deuterium nucleus consists of 1 proton and 1 neutron. When a  $K^+$  meson in the beam "interacts" with a neutron "target" reactions of the type listed above may occur. An example is shown at the left.



It is the scanner's job to find these events and measure them. In the photograph at the left the particles are bent by a magnetic field. In this particular example the positive tracks curve up and the one negative track (a  $\pi$  meson) curves in the opposite direction. The short stubby track is the recoiling proton in the deuterium nucleus which "observes" the  $K^+$  neutron interaction from a distance.

This experiment is being done in collaboration with physicists at the University of California, Los Angeles, and the California Institute of Technology. Those associated with the experiment at NAL are Thomas Borak, Radiation Physics; Roland Juhala, Booster, and Ernest Malamud, Main Ring.

A spark chamber experiment at Argonne is designed to study the mass spectrum of the  $A_2$  meson in the "eta-pi" decay mode via the reaction:

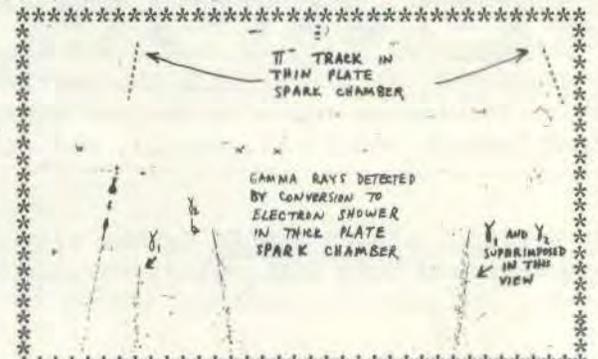


FILM ANALYSIS FACILITY GAINS EXPERTISE FOR BUBBLE CHAMBER EFFORTS - (Continued from Page 2)

In a double arm spectrometer, the recoil proton is detected in one arm. The  $\pi$  is observed in a thin plate spark chamber in the other arm, and the gamma rays are seen when they convert to an electron shower in a thick plate spark chamber. See illustration at right.

This experiment is being done in collaboration with physicists at the Universities of Chicago, Wisconsin and Toronto. The NAL physicist involved is Richard Mobley. Other physicists involved are: Gianni Conforto, Rutherford Lab.- U.K.; Martin Kramer and David Underwood, University of Chicago; Mike Witherell, Don Tompkins and Dick Prepost, University of Wisconsin, and Anthony Key and Yuen Kwok, University of Toronto.

At present, the Film Analysis Facility staff includes the following: Dixon Bogert and Raymond Hanft, physicists; Robert Cavanaugh, engineer; Bruce Chrisman and Glenn Johnson, programmers; Carl Lindenmeyer, designer; Richard Bingham, Arthur Cook, Curtis Danner and Martin Glass, Technical Support; Annette Albano, Dawn Chartrand, Christine Dedin, Barbara Cox, Judy Dill, Teresa Downs, and Harriet Otavka, Scanning and Measuring Staff.



.....Top and side views of pion track and conversion of 2 gamma rays.

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VILLAGE BARN TO BE LOCALE OF LUAU JUNE 19

NAL's Village Barn will be the scene Saturday, June 19, of a Luau for NAL employees from 8:00 p.m. to 12:00 a.m. Food will be served at 8:00 and there will be Hawaiian entertainment, starting at 9:00. Music for dancing will be provided by a Hawaiian band from 10:00 to 12:00 p.m. The pool will be open and there will be a cash bar. Tickets are \$4 per person and are available from members of the Social Committee and at the Cafeteria.

Helen Ecker of the Social Committee, advises that the menu will include the following: ensalada tropical, ensalade blanche papa (Potato salad), arroz con camerones (shrimp and rice), killer clam shells filled with black and green olives, sweet and dill pickles, toscani pepperocinis, corn relish, pickled beets, cottage cheese, radish roses, carrot sticks, celery hearts, green onions, pickled herring in cream sauce, jello molds, fruit supreme, hawaiian fruit platters and candied yams.

The menu also will include fresh prawns (shrimp bowl), whole smoked chinook king salmon ala garni, sugar baked ham polynesian, roast loins of pork hawaiian or glazed chicken hawaiian, U.S. prime black Angus round of beef, carved individually per request, assorted dinner rolls and butter, coffee, tea, milk, coco almond cakes and coconut cakes.

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MACHINE SHOP HAPPENINGS: - By Bill Fray

John Ramos' son, Ray, has won a full scholarship at North Dakota State University and will play basketball there. He is an alumnus of Batavia High.... George Eastland is going back to England to visit his family this summer....Roger Hiller was married on Saturday, May 29, to Patricia M. Rogan of Joliet....Gene Stark and Nora Bartlett will be married on July 17, 1971....Bill Jones' daughter, Patricia Ann, graduates with high honors from Illinois State University in June; she will receive a B.S. degree in Education.



GEORGE EASTLAND



ROGER HILLER

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EEO SCHEDULES SHOWING OF "BLACK AND WHITE: UPTIGHT" JUNE 15

"Black and White: Uptight," produced by BFA Production, Santa Monica, Calif., a 30-minute film exploring racial tensions throughout the nation, will be shown by the NAL EEO and Community Relations office in the NAL Village Barn, Tuesday afternoon, June 15, at 5:15 p.m. NAL, AEC, and DUSAF employees, their families and friends are invited to attend.

Kennard R. Williams, NAL's EEO head, says: "This is an excellent educational film. It acquaints the viewer with the subtle and sometimes unconscious manifestations of prejudice as well as the more obvious manifestations by approaching the situation from various directions -- political, social, medical, educational and religious."

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NAL SOFTBALL LEAGUE SCORES (games played on Thurs., June 3): In the first game, Machine Shop defeated Main Ring, 11-8; Physics Research 21, Radio Frequency 13 in the 7:30 game.

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SWIMMING POOL PASSES STILL ON SALE FOR 1971 SEASON

More than 90 season passes have been sold to date for the NAL Swimming Pool. Tickets still are being sold at Personnel, 22 Sauk. For details, call Ext. 225.

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A.C.U., YOUR CREDIT UNION

During the first quarter of 1971, A.C.U. approved nearly eight hundred thousand dollars (\$800,000) in various types of credit. It was estimated that the borrowers will save about forty four thousand dollars (\$44,000) in credit costs.

If you want to find out how A.C.U. can help you save money in the form of credit costs, call Ralph Wagner, Ext. 225.

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CLASSIFIED ADS

FOR SALE: 20" Zenith TV & stand; like-new Nesco roaster; Webcor phonograph/light wood; portable electronic air purifier; 16# bowling ball, case, size 8½ men's shoes; kitchen colonial light fixture. Phone 964-0185.

FOR SALE BY OWNER: 6 rm. res. in Oak Park. 3 bedrooms, semi-finished attic, 2 car garage, full basement, sm. grape arbor & fruit trees. \$15,500. Call VI8-2099.

BABYSITTERS WANTED for summer visitors. Please give name, age, phone number, and town in which you live either to Jodi Eskey, Ext. 348, or post on bulletin board in Village Barn.

FOR SALE: 1966 VW sedan, Bahama blue, radio, very good condition. \$925. Call Jack Kiefer, Ext. 284 or 355-7711.

FOR SALE: '68 Ford XL, P.S., P.B., Air, 2 dr. vinyl top, red and black, Firestone 500 tires, new. \$1,750 or best offer. Good condition, low mileage. Call Norva, Ext. 210.

FOR SALE: '70 Renault R-10, std. trans, 4 disc. brakes, 34 mpg, radio, excellent cond. \$1,500 or best offer. Call G. Allavoine, Ext. 518.

FOR SALE: '68 VW, sedan, drk. green, good cond., \$1,200 or best offer. Call D. Mapes, 879-2900, Ext. 254.

FOUND: in Personnel about May 15th, blk-rimmed, prescr. bifocal glasses, left after visit to Personnel. Call Ext. 324.

WANTED: Ride from Wheaton to NAL and return. 2 weeks in June, July and August. Call Dorothy, Ext. 346.

TUTORING: Tutor students grades 6-12, evenings, Certified in English. \$5 per hour. Call Fran, Ext. 351.

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