#### Page Eight

# **Players' Search** For Two Leading **Roles Continues**

A China Lake Players spokesman stated that the roles of the Prince and the Princess in their upcoming one-act production for the Bakersfield One-Act Drama Festival, "The Ugly Duckling," by A. A. Milne, still need to be cast.

All persons interested in trying out for either of these roles is asked to come to 405 McIntire St., Monday, March 29, or Tuesday, March 30, between the hours of 8 p.m. to 9:30 p.m.

Chuck Wilcox, who recently won the "Best Supporting Actor's" trophy for the year 1970, will direct the play.

This will be the local areas only entry in the One-Act Drama Festival, which is held yearly at Harvey Auditorium in Bakersfield.

## **NWC Involved** In Fog-Dispersal Program

(Continued from Page 4) Code 60

Dr. Pierre St. Amand, Head, Earth and Planetary Sciences Division; Dr. Richard Clark, Project Director; Dr. William Finnegan, Lab & Theoretical Studies; Tom Wright, Field Director; Harold Cronin, Project Scientist; Lt. Richard Taylor, USN, Logistics; Olaf Heimdahl, Data Coordinator; Richard Evert, Airborne Lab operator; William Burson, Aerial Photographer; Jerry Wadley, Radar Controller; Charles Cordell, Materials Facility; Glen Bray, Radar Technician; Dr. William McEwan, Dr. Lohr Burkardt, and Charles Drew, Lab & Theoretical Studies.

## Code 75

Marty Shelton and Bill Beasley, Film Documentation. Code 55

Frank Carlisle and Cliff Fountain. Electrostatic effects Code 40

Ray Van Aken and Craig Porter, Delivery System Design.

Code 30 Larry Byrd, Radar Technician.



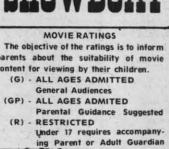
NEW FEDCO MANAGER-Neal H. "Robby" Robertson is the new manager of the FEDCO service station at NWC. Robby, a native of Archer City, Texas, was stationed with VX-5 and took his retirement at NWC. He and his wife, Martha have five children: Brenda, 18; Danny, 11; Jimmy, 10; Jeanette, 8; and Stanley, 5. Just prior to his retirement, Robby worked at Desert Motors, in Ridgecrest, under Project Transition.

### Valley Fever . . .

(Continued from Page 1) and attempt to identify desert areas and possible other sources from which they may have contracted the disease. A final goal of this research would be development of a fungicide to neutralize the spore-bearing soil.

This planned investigation will be largely under the direction of Dr. Pierre St. Amand, Head of the Earth and Planetary Science Division. He will be assisted by Dr. Richard Clark of that division, Gerald Whitnack, an analytical chemist in Code 605, and others as appropriate. Dr. Hampson will also collaborate in the study.

Following the seminar, the local and visiting medical officers exchanged views on the most effective methods for treating valley fever.



ROCKETEER

26 MARCH

"BURN!" (112 Min) Marlon Brando

FRI

7:30 p.m. (Adventure) Professional opportunist is hired to foment a Caribbean revolution to forestall a sugar monopoly and he succeeds only to be hired ten years later, ironically, to destroy the very movement that he previously had created. (GP)

Short: "Ants in the Pantry" (7 Min) 27 MARCH -MATINEE-

"MY SIDE OF THE MOUNTAIN" (100 Min) Theo' Bikel

> 1:00 p.m. Shorts: "The Little House" (7 Min) -EVENING-

"GUNS OF THE MAGNIFICENT SEVEN" (106) George Kennedy, James V

7:30 p.m. (Western) They aim to kill-not to please! Kennedy picks up Yul Brynner's role as he rounds up a gang to free a Mexican peasant It leader from jail. A W-I-L-D adventure!

28 MARCH "THE ARISTOCATS" (37 Min) **Disney Feature Cartoon** 

1:00 p.m. and 7:30 p.m.

(Cartoon) When a wealthy dowager vows to leave her vast fortune to her cats the butler decides to get rid of them. But he didn't reckon with Tom O'Malley, a roving alley cat, and his

Short: "Country Covote Goes Hollywood" (37 Min) NOTE: SPECIAL MATINEE

CHINA LAKE CONCERT ASSOCIATION BALLET CELESTE 8 p.m.

TUES and WED "LITTLE FAUSS & BIG HALSY" (99 Min) Robert Redford, Michael Pollard

7:30 p.m. (Action-Drama) Cycle-racing enthusiasts tour the Western circuit as their opposing personalities are laid bare on the screen. A study of human domination as they live the free life with danger, dools and the dirt track.

> Short: "Gee Whiz-z" (7 Min) (Roadrunner)

THURS and FRI

"THE DEVIL'S BRIGADE" (130 Min) William Holden, Cliff Robertson, Vince Edwards

#### 7:30 p.m.

(War Drama) Special Forces unit is created from Canadian and U.S. armies and a rivalry levelops that aids in thier ferocity as they nead up the Cassino campaign. (G)

'Gold Rush Days' Celebration 29 MARCH **Planned As Costume Affair** 30-31 MARCH

to emphasize costuming, en- prize-winners will be selected at tertainment and the general at- that time. mosphere of the area during the 1849 to 1900 period.

According to the Ridgecrest Chamber of Commerce, the event 1-2 APRIL will be an "1849 Mardi Gras," with a Western flavor. "Everything possible will be done to get the whole population of the Indian Wells Valley into the spirit, and into costume," a CofC spokesman for the four-day event. The ensaid

> streets of Ridgecrest look like a melodrama will be presented on a day out of the past.

officials will roam the streets another night, barbershop singing awarding gift certificates to will be offered along with compersons in deserving costumes. munity singing in which the The gift certificates are audience will receive awards of redeemable at the store specified \$1.25, \$2.50 and \$5 for use in paron the certificate.

costume.

Friday, March 26, 1971



BALLET TO PERFORM HERE-Daniel Copich soars over the heads of Kimberly Graves and LaAura Brunnel in "Creole Trio," one of the selections which will be presented by San Francisco's "Ballet Celeste" at the Center Theatre, March 29 at 8 p.m. The Ballet Celeste appeared at NWC in January, 1970, when they performed the Nutcracker Suite. In addition to the Creole Trio, the group will perform "Les Sylphides," "Les Patineurs," "The Black Swan Pas des Deux" from Swan Lake, and "The Grand Pas de Quarte." Tickets for this return engagement are priced at \$1.50 and \$3, and may be purchased from the Center Pharmacy, Loewen's Music Store, and the The Gift Mart.

The first annual celebration of The contests will be held "Gold Rush Days" will be held in Saturday night, April 24, and the Indian Wells Valley April 22-25 Sunday evening, April 25, and all

> In addition "Strike-It-Rich" buttons will be on sale before and throughout the celebration. These buttons will be numbered and from time to time a contest will be held, netting the lucky number holders additional prizes.

Free entertainment is planned tertainment will be moved to a new The ultimate aim is to make the location each evening. A mobile stage in one of the parking Each day of the celebration, lots of the business district, and on ticipating stores in Ridgecrest.

Each participating merchant The Kern County Park will be the will keep a box in his store to site of Sunday's festivities and will collect names for a contest. The take the form of an old-fashioned prizes to be won from each box will picnic with participants bringing be offered by each particular store. their own lunches. Participation Names deposited in the box during events are planned for the afthe week will be the names of ternoon with time allowed for the persons who registered while in contests for the store prizes and for the final costume contest.

From	PLACE STAMP HERE
то	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	

CHOIR CANTATA-The Protestant Choir of the

performed Wednesday, March 31 at the main All Faith Chapel rehearses "The Seven Last chapel. The congregation invites all NWC Words of Christ," by Theodore Dubois, to be residents to attend. -Photo by PH3 Tony Curiale

photograph, but it is the name of a Fog-dispersal program now being conducted jointly by the Naval the tests conducted at McKinlevville, Calif., an

FOGGY CLOUD-That could be the name of this Army CH-54 SKYCRANE helicopter is shown dispersing a portion of a shallow fog layer with its downwash. Other tests conducted over the past Weapons Center and various other federal and three years have included seeding layers of Fog civilian agencies. (Details of the program are with hygroscopic particles which extract water described on pages 4 and 5). Above, during one of vapor resulting in a "drying" of the atmosphere. -Photo by Marty Shelton



Vol. XXVI No. 12

# Mar. 21-27 Declared POW/MIA Week

Naval Weapons Center, China Lake, California

concern for prisoners of war and those missing in action in throughout the world. Southeast Asia. The President's proclamation is supported by a action and protesting the inhumane treatment of these men and their families.

Seven years ago this week, the first US prisoner still being held by the enemy was captured in Vietnam. There are presently 372 Navy-Marine Corps prisoners and missing in Southeast Asia.

In a message to all hands from the Honorable John Chafee, Secretary of the Navy, the Secretary expressed his wholehearted support by calling on all Navy and Marine Corps commands to provide support to civic groups engaged in activities in support of the prisoners.

"These men and their families deserve our highest consideration and support. Let us pause this week to honor them and pray for their safe return and for the wellbeing of their families" he said in the recent message.

The plight of American prisoners held by enemy forces in both North and South Vietnam has been well documented. Likewise, the anguish of the prisoners' families and the

The President of the United families of the more than 1,000 States has proclaimed the week of Americans listed as missing in prisoners, March 21-27 as a national week of action has been for many years the concern of millions of persons for prisoners,

In 1957, representatives of North Vietnam agreed to adhere to the home. joint congressional resolution 1949 Geneva Convention relative to calling for support and concern for the treatment of prisoners of war. wounded and ill prisoners, and the prisoners of war and missing in Articles of the Convention include:

Prompt identification of Adequate diet and medical care

Mar. 26, 1971

Communication with other prisoners and their families at

Prompt repatriation of seriously

(Continued on Page 3)



WEEK OF CONCERN FOR POW-MIA-In conjunction with the President's proclamation for the week of March 21-27 to be observed as a National Week of Concern for POW-MIA, Dick Mello (c) and Mrs. William Beasley, members of the local civic group active on behalf of the POW-MIA, presented Capt. A. E. May, Deputy commander, with a bumper sticker that calls attention to the efforts in behalf of our POW-MIA. To support this cause, the local committee will distribute literature, bumper stickers, and letter seals this week at the Bank of America on Friday, and in front of the Shopping Bag Market on Friday and Saturday when donations in support of the POW-MIA cause will be accepted.

# John McKenna **NWC Bluejacket**

# **Ohio Native Chosen For His Outstanding Attention To Duty**

AT-1 John J. McKenna, Avionics Shop night supervisor at VX-5, has been selected "Bluejacket of the Month" for March. McKenna, who has been in the Navy for 11 years, is a native of Akron, Ohio, but now calls Norfolk, Nebraska his home town.

Selected for his "outstanding" duty performance, as well as his appearance and military bearing, McKenna was pleasantly surprised at his "good fortune."

"I really like it here," he stated in an interview. "The area and its climate, the duty, and my neighbors and friends, make NWC a fine place to live and work."

McKenna met his wife in Norfolk, after his discharge from the Navy in 1961. He had a friend who lived in Norfolk, so he and the friend went there to seek employment. Sheila Marie was working as a waitress and following their marriage, John re-entered the service.

The couple have two children, Melinda Ann, 6, and Patrick John,

## **Trip to Bakersfield**

As a result of his selection, McKenna and his wife will be hosted to an expense-paid weekend to Bakersfield by the Greater Bakersfield Chamber of Commerce. The couple will stay at the Imperiel 400 Motel, and will take their meals at Sambo's on Union Avenue.

In addition, prior to leaving the Butler at Desert Motors, to use on the fun-filled weekend.

Once in Bakersfield, the March Bluejacket will be given free gift certificates from Bakersfield merchants, and a hospitality packet containing discount the local area.

KERO-TV for re-broadcast on a Carricart, in Wherry Housing.



AT1 John McKenna

later news program.

McKenna has many interests, including: the study of Naval warships; photography; small arms; woodowrking; Aerospace technology; and staying abreast of current events. He is an avid reader and said the mailman is "glad to get by my place, as we usually get a load of magazines."

Sheila has recently taken up sewing and plans on making clothes for herself and the children, but strictly as a hobby, the March Bluejacket pointed out.

While with VP-10, stationed at local area, the McKenna's will be Brunswick, Maine, McKenna given a new Ford from Doug pulled some very interesting duty which included anti-submarine surveillance, ice surveillance, shipping surveillance, and in the line of duty made many trips to Newfoundland, Iceland, the Azores and Bermuda. While with VP-10 he was an airborne Radio coupons from other merchants in Operator and Airborne Sonics. **Operator** 

Also, he will be interviewed on The McKennas reside at 113

# Met This Week **MESWG Seminar Meets To Discuss Valley Fever**

A seminar sponsored by the severity warrant a Center-NWC Medical, Engineering and supported effort to combat it. It Scientific Working Group was pointed out that during World (MESWG) was held last Monday to War II, when troops maneuvered discuss the feasibility of local throughout the California desert research on valley fever (coc- area, valley fever was a significant cidioidomycosis), a disease en- military problem. demic to this area. Joining selected The approach considered most were medical officers from Ed- analysis of the soil known to wards AFB and NAS, Lemoore. contain the offending spores. This nurse.

Dr. Hampson, an authority on valley fever, led off the seminar with an illustrated talk on the nature of the disease, its prevalence, known "hot spots" where the disease-causing fungus thrives, etc. In subsequent discussion, it was agreed that the incidence of the disease (an average of 200 reported cases per year in Kern County) and its

MESWG members in the seminar practical would involve chemical Other visitors included Dr. Bruce analysis would attempt to identify Chandler of the Drummond the common soil characteristics Medical Group, Dr. C. Ross which cause the spore to thrive in Hampson, Kern County bac- the "hot spots." The physicians at teriologist and Mrs. Anna Marie the seminar also agreed to screen Gordon, Kern County public health patients with valley fever whom they see over the next six months (Continued on Page 8)

Inside	C.
Cum Laude Singers	.2
Navy Relief Pins	.3
Sports	.6
EM Club Opens	.7



LENGTH OF SERVICE AWARD-In recognition of his 30 years of Federal Service, Frank W. Easter (r) of the Fuze Dept. Planning Staff, accompanied by his wife, was presented a pin by B. F. Husten, Head, Fuze Dept., during ceremonies held in the department office this week. Easter has been in missile fuze research at the Corona Annex for the past 13 years; he worked 9 years at Point Mugu; also he has worked at Bremerton and Long Beach Navy Ship Yards; and was working at Pearl Harbor on December 7, 1941-the day it was attacked, starting World War II. Easter has a BS in Electrical Engineering from Colorado University, and has done graduate work at UCLA in space technology and advanced electronics. A long-time member of IEEE, he also belongs to the Society of American Value Engineers (SAVE). -Photo by Ronald Gray Mills, USN

## **CENTER LIBRARY LISTS NEW BOOKS**

A complete list of new books is available in the library. FICTION Adams-Last Days of Wolf Garnett. Blish-Anywhen. Bradbury-October Country. Christie-Passenger to Frankfurt. Cost-Veiled Sultan. Davis-Touching. Dickey-Deliverance.

The Rocketeer

fficial Weekly Publicatio

Naval Weapons Center

There. Jones-Merry Month of May. Shannon-Whim to Kill. Uhnak-The Witness. Uris\_QB VII. Whitney-Lost Island. NON-FICTION Colbeck-Pottery: Technique Throwing.

Hunter-Nobody Knew They were

Fox-Diagrams for Living.

## ROCKETEER

## PROMOTIONAL **OPPORTUNITIES**

Applications for positions listed in this olumn will be accepted from current NWC employees and should be filed with he persons named in the ad. All others esiring employment with the Nava Veapons Center may contact the Emoloyment Division, Code 652, Extension 069. Current applications (SF-171) or Standard Form 172 should be submitted bringing your work history up to date if one has not been submitted within the las months. The fact that positions are advertised in this column does not preciude he use of other means to fill these ositions. Part of the ranking process of hose rated as basically qualified will be a upervisory appraisal form that will be ent to the employees present and most recent previous supervisor Selection shall be made without discrimination for any

Supply Clerk (Card Punch),-GS-2005-3 or 4, Code 2591-Operates key punch machine, maintains files, processes incoming documents, and types correspondence, reports and other documents for the Branch. Assists in Telmart operation. Minimum Qualification Requirements: One year of office or clerical experience for the GS-3 plus one year of experience in supply or a related field for the GS-4. Job Relevant Criteria: Should be a qualified typist and must be capable of operating a key punch machine. **Promotion Potential:** GS-3 to

Clerk Typist, GS-322-3 or 4, Code 252-Personal and telephone \* contacts with representatives of business and industry, collection and presentation of data concerning contracts and related areas, typing of correspondence and preparation of charts and graphs. Minimum Qualification Requirements: For the GS-3 level, one year of clerical experience which included a significant amount of typing; for the GS-4, two years. Job Relevant Criteria: Knowledge of graphs and charts as methods of presentation is desirable; must be a qualified typist Promotion Potential: GS-3 to GS-4. **Chapel Gospel Rock Concert** File applications for above with Na

Campbell, Bldg. 34, Rm. 206, Ext. 3118. Supervisory Supply Clerk, GS-2005-5, 25753-In a supervisory capacity, insures prompt processing of receipt documents and delivery of material to meet established schedules. Trains subordinates in processing of documents and in key punch operations and procedures. Minimum Qualification Requirements: One year of general clerical or office experience plus two years of specialized experience in supply work or closely related activities. Job Relevant Criteria: Must have working knowledge of the key punch machine. Clerk-Dmt, GS-316-5, 6002-Provides clerical support to the Research Department administrative staff. Duties include typing budgetary information, technical correspondence forms, reports from tapes, acting as alternate control point for classified ocuments, maintains department files and records. Minimum Qualification Requirements: Three years of appropriate experience, which included use of the dictating machine. Job Relevant Criteria: Familiarity

with scientific terminology is desirable. File applications for abofe with Naomi Campbell, Bldg. 34, Rm. 206, ext. 3118. Mail & File Clerk GS-305-4 PD No. 7155019 Code 5500-Position is located in the Department Office of the Engineering Dept. Incumbent is responsible for processing and routing of official and unofficial incoming mail and arranging and controlling of incoming and and light records titled "Talk utgoing messages, classified documents and

(Continued on Page 7)



RE-OPENING OF JOLLY ROGER CELEBRATED-RAdm. W. J. Moran, (I) COMNWC, cuts a cake celebrating the grand opening of the recently refurbished "Jolly Roger," NWC's Enlisted Men's Club. RAdm. Moran also officiated at a ribbon-cutting ceremony. Bob Furey, manager of the club, and an unidentified employee, look on.

Protestant Chapel service Sunday, covered dish dinner, slated to begin at 6 p.m. Accompaniment is composed of two guitars, drums Singers, they are a Gospel-Folk, and piano. Persons interested in attending the covered dish dinner may call the Chapel office for further information. All services are open to the

public

### **Inventory** Date Moved To April 1

The date for the inventory lanned for the Commissary Store has been changed to April instead of March 29, as riginally announced. The Commissary Store will close for Inventory on April 1, and will open for business as usual April



SHOOT'N STARS! SKY DIVING?-Whatever -our mommies and daddies are going! Are yours? Interested? Ask a WACOM member. (Do not call the Rocketeer.) Remember-60-71 May 8.

Cum Laude Singers Here For

A group of 23 high school and On Saturday evening, March 27,

college students will sing at the they will sing for a chapel family

March 28, at 10 a.m. Calling

themselves the Cum Laude

Gospel-Rock group who have

specialized in contemporary

worship music. Jane Andringa,

pianist for the group, arranged all

their music, which is intended to

convey in a new and different way,

the message of Christ and His

The Cum Laude Singers come

from the Bellflower-Artesia area.

near Los Angeles, and have sung at

the Long Beach Auditorium, a

number of hotels in the Long Beach

area, and in almost all of the

military bases in Southern

California. Recently they recorded

an album for Ralph Carmichael

About His Love."

Love

#### China Lake, California RAdm. W. J. Moren, USI NWC Comman H. G. Wilson Technical Director

K. H. Robinson Head, Technical Information Depart

> William P. Valenteen, Jr Editor

> > Jack C. Lindsey Staff Writer

#### Lucille Edwards Editorial Assistan

PHCS C. E. Bruce, PH1 D. C. Manderscheid, PH2 Delmar E. Hart, PH3 Anthony Curiale,

> PH3 Ronald G. Mills. Staff Photographers

DEADLINES:

News Stories . ... Tuesday, 4:30 p.m. Photographs . ... Tuesday, 11:30 a.m. The Rocketeer receives American Forces Press Service material. All are official U.S. Navy photos unless otherwise identified. Printed weekly with appropriated funds by a commercial firm in compliance with NavExos P-35, revised July 1958. Office at Nimitz and Lauritsen.

. 3354, 3355, 2347 Phones

DIVINE

Protestant (All-Faith Chapel)-Morning Worship-10:00 a.m. Sunday School-8:30 a.m., Chapel Annexes 1, 2, 4 (Dorms 5, 6, 8) located opposite Center

Roman Catholic (All-Faith Chapel)-Holy Mass-5:00 p.m., Saturday (Fulfills Sunday obligation); 7, 8:30 and 11:15 a.m.

Daily Mass-11:30 a.m. in Blessed Sacrament Chapel. First Saturday, 8:30 a.m.

Confessions-4 to 5 p.m. Saturday, and 8 to 8:25 a.m. Sunday. NWC Jewish Services (East Wing All-Faith

Chapel)-8 p.m. every first and third

Sabbath School-10 a.m. to noon, every first and third Saturday.

Unitarian Fellowship-(Chapel Annex 95, 95 King Ave.)-Sundays, 7:30 p.m.



The Cum Laude Singers . . .



# Local Youngsters Featured In **DCOA 'Young Peoples Concert'**

School Lecture Center

While the orchestral pieces are Major. important, the highlight of this All residents of the Valley are Sunday's concert.

Selected to perform are: Robert members, or at the door.

The Desert Community Or- Malone, son of Mr. and Mrs. chestra, in conjunction with Music Richard Malone, of China Lake, 70 of Bakersfield College, Desert who will play the Haydn Trumpet Campus, will present their annual Concerto; Stephen Bergens, son of Youth Concert on Sunday, March Mr. and Mrs. Andrew J. Bergens, 28, at 4 p.m. at the Burroughs High of Ridgecrest, featured on the piano in the Piano Concerto in A Featured at this concert as or- Minor, by Schumann; Pete chestral selections will be "The McAnally, of Boron, who will play Light Cavalry Overture," by Franz Elegy for Percussion, by Jerome Suppe; selections from "Die Rosen, and Daniel H. Mallory, of Meistersinger," by Richard China Lake, who will play French Wagner; and selections from Horn in Richard Strauss's Con-"Oliver" and "Henry the VIII." certo No. 1, Opus 11 in E Flat

concert is reserved for the four invited to hear these talented young people of the local com- youngsters perform. Tickets are munity who will play as soloists at available at the Center Pharmacy, Gift Mart, or from orchestra

## A Look Into The Past From The Rocketeer Files

## 20 Years Ago . . .

Under Secretary of the Navy, Dan A. Kimball, and Under Secretary of the Army, A.S. Alexander, with eight flag and general officers of the DOD Research and Development Board visited the Station . . . Rising costs blackened hopes for a unified school district at China Lake which would place Burroughs high school under control of the local school board . . . K. H. Robinson was appointed acting community manager while John O. Richmond took an extended leave of absence . . . Dr. F. W. Brown, associate director of NOTS, discussed "Some Problems of Operating AnR&D activity" at the ASPA meeting . . . CDR. Levering Smith, acting head of Rockets and Explosives Dept. since 1949, was sworn in as a Captain . . . LC-DR. A. S. Goodfellow, Assistant O-in-C, Pasadena Annex, was promoted to Commander.

#### 10 Years Ago ...

Employment was projected to be tight that summer ... Dr. Zarro famed hypnotist, gave two performances at the Station Theatre . NOTS senior personnel attended a TID-developed unique audiovisual presentation, "Weapons for Limited War." Its timeliness evoked much interest at a point when President John F. Kennedy was concerned about the status of limited war armament. Its unusual thought-provoking content and method of delivery was so enthusiastically received when presented to the Defense Science Board in Washington, D.C., by Dr. W. B. McLean, Technical Director and Dr. C. E. Waring, Research Dept. Head, that further showings were requested for 750 officials of the Armed Forces, the DOD, and for 300 high-ranking Army officers at Ft. Monroe, Va. A 6' X16' folding translucent screen was used to display images of varied shapes and sizes by six slide projectors and one motion picture projector-all synchronized with taped narration. Earl Kirkbride and Byron Butler of TID Presentations Div. assisted in the Washington showings.

## 5 Years Ago ...

New advances in microscopy were achieved by NOTS scientists. Dr. Ernst G. Bauer and George H. Turner of Research Dept., an-.nounced-with traditional scientific caution-progress in the construction of a new ultra-high vacuum electron microscope . . ComNavAirPac, VAdm. Thomas F. Connolly, NOTS Experimental Officer from 1952-54, visited the Station.

## ROCKETEER

## PROMOTIONAL **OPPORTUNITIES** (Continued from Page 2)

instructions. Qualification Requirements: years of progressively responsible experience in mail and file work or in related areas, 6 months at GS-3 level or 1 year at GS-2 level Job Relevant Criteria: Ability to exercise nitiative and judgement in application of per tinent regulations, procedures, and in structions; experience in handling classified material; experience in routing mail, sea ching files, and classifying or cross referencing files material. Tact, courtesy and capacity for effective public contact essential. Typing ability is desired. Ad-vancement Potential: GS-5 upon demonstrated ability to perform all duties of position with minimum supervision. File applications for above with Joan

MacIntosh, Code 657, ext. 2371. Budget Officer, GS-560-13 or 14, Code 173-The incumbent of this position is Head of the Programs and Budget Staff. Is responsible for the planning, implementing, and monitoring of, as well as advising on, the Station's utilization of resources, i.e., manpower facilities, funding. Minimum Qualifications: 3 vears general and 3 years specialized as stated in X-118.

Management Analysis Officer, GS-343-13 or 14, Code 172-The incumbent of this position is Head, Management Division. Is primarily responsible for providing Center managemen with management staff services which include staff advice, consultation and assistance in general management matters. Minimum Qualifications: 3 years general and 3 years specialized as stated in X-118.

File applications for above with Mar Morrison, Bldg. 34, Rm. 210, Phone 2032. Motion Picture Production Specialist, GS-1071-5 or 7 (Code 7523)—This position is located in the Film Projects Branch of the Technical

Information Department. The primary func tion of the Branch is production of technical film reports in support of Naval Weapons Center programs and activities. The inmbent will edit film and all types of sound tracks into completed motion pictures - both "A" and "B" type productions. Will assist cameramen, do stock footage library report will insure sound recording and transfer quality and other miscellaneous duties Minimum Qualifications: GS-5, 3 years and GS-7, 4 years. Job Relevant Criteria: A formal education in film production is desirable. File Application with Mary Morrison, Bldg 34, Rm. 210, Phone 2032.

Clerk-Typist, GS-322-2, 3 or 4, Code 4002-This is a trainee job leading to Department Personnel Clerk. The Department Personnel Clerk prepares all requests for Personnel Actions, Clearance Requests, Awards and Promotions. Processes new and terminating employees. Prepares personnel reports charts and tables on the continuing and ad ho basis. Maintains liaison between Division offices, Department office and Personne Department. Works with training requests, does filing and record keeping. Minimum Qualification Requirements: GS-2, completion of High School and passed Civil Service Test; GS-3, 1 year general experience; GS-4, 2 years general experience and 1 year specialized in accordance with Handbook X-118. Ad vancement Potential: This position has advancement potential to GS-6 based on incumbent's ability to fulfill job requirements. File applications for above with June Chipp. Bidg, 34, Rm. 204, Phone 2676.

Laborer (Heavy), Code 4552, (3 vacancies WG-03—Performs any one or a combination of a large variety of unskilled or low skilled tasks requiring predominantly physical exertion of a heavy or arduous type. Qualifications: . Element Standards, Must possess (or obtain) valid Navy Driver's License up to 21/2 ton. Job Relevant Criteria: Should be able to use single hand tools and be familiar with trade terminology and equipment. Promotion Poten tial: Could lead to Ordnance Learner, WG-04. File above applications with Pat Gaunt, Bidg. 34, Room 202, Phone 2723.

THE NAVAL WEAPONS CENTER, CHINA LAKE, CALIFORNIA ANNOUNCES A COMPETITIVE PROMOTION EXAM-INATION FOR FOREMAN (METAL WORKING SHOPS), WS.38950.10 AP. PLICANTS MUST FILE CARD FORM NAVEXOS-4155AB, STANDARD FORM 172, AND SUPPLEMENTAL WAGE GRADE SUPERVISORY INFORMATION SHEET WITH THE SPECIAL EXAMINER, CODE 652. CHINA LAKE, CALIFORNIA TO BE RECEIVED OR POSTMARKED BY APRIL 12, 1971, FORMS MAY BE OBTAINED FROM THE PERSONNEL BLDG., ROOM 100. CHINA LAKE, CALIFORNIA.

#### Queries On Housing

Questionnaires for the Center's annual Housing Requirements Survey have been mailed to a limited number of civilians and military personnel. The data collected through the survey is used to establish and support our needs for private housing. Time schedules are such that it will be necessary for these forms to be completed and returned by 5 April. Your cooperation in insuring prompt return will be appreciated.

# **Employee** In the Spotlight

Martin S. Denkin, Youth Activities Director at NWC, has been chosen this week's Employee in the Spotlight. Since coming to his present assignment in April, 1969, Denkin has initiated many changes in the structure of the Youth Center. At present, 955 youths are cardcarrying members of the Youth Center program, an increase of more than 500 since his arrival.

"When I reported here the kids had one room and no outside equipment." Denkin said. "There were approximately 400 children who took part in the youth activities, and this was a 'registration' basis."

Since that time the Youth Center basketball program has been expanded as has the girls' softball program.

Denkin has been instrumental in beginning a regional boxing program, sponsorship of pop concerts by the Youth Center, and was a co-founder of the Reality Program with Tom Boggs.

Last Year Denkin managed the Youth Center-sponsored Angels baseball team which won the Pony League title, and was the All Star team manager' which took the Area Championship

A graduate of Los Angeles State College, Denkin has been a California resident for 18 years. He was the Athletic Director and Assistant Executive Director for the



Martin S. Denkin

Eastside Boys Club in Los Angeles for eight years, where he co-ordinated Youth Activities as a Community **Relations Officer.** 

One of the boys Denkin worked with during that pericd was Ruben Navarro, who Denkin now co-manages.

"Through recreation it is possible to 'bridge' the generation gap and become closer to the youth of our area," Denkin said. "This is one of the things I hope to accomplish here. I feel this is best done in a one-on-one situation, and this is the thought which guides me in my work."

Denkin, his wife Rachel, son David and daughter Jackie reside at 307-A Tyler, on the Center

## School District Summer Program

Applications are currently being will be granted. accepted from persons interested China Lake Joint School District. Applications can be obtained at the School campus.

Teachers not holding regular credentials cannot be considered this year unless provision is made by the State Board of Education service. To date no indication has through grade 7. Registration

In filling the teacher aide in employment as teachers and as positions, first consideration will aides in the summer program. This be given to college and high school program will be conducted from students who have worked in the June 28 through July 30 by the program before, according to Andrew Petach, Principal of the Summer Program. Consideration China Lake Joint School District is next given to college students, Office, located on the Murray high school seniors and high school juniors.

The 1971 Summer Program will be open to all students of the Rand, Trona, Indian Wells Valley and China Lake School Districts specifically authorizing such presently enrolled in Kindergarter been received that this permission materials will be distributed soon



THIS WON'T HURT A BIT-Capt. Thomas D. Stephenson, NWC Dental Officer, prepares to inject DTI R. J. Denbrook with six more years of Naval service. Denbrook, a 16-year veteran, was re-enlisted by Capt. Stephenson in ceremonies attended by his wife, Sharon Kay, and four children: Denise, 10, Roy, Jr., 9, Douglas, 7, and Theresa, 4. Denbrook will soon depart NWC for Camp Pendleton.

Page Seven

## Page Six

# **Pony League To Hold Tryouts For** 14-Year-Olds

The NWC Pony League will hold tryouts for 14-year-olds on Saturday, March 27, on the Pony League diamond.

Boys whose birthdates are between August 1, 1956 and July 31, 1957, are league-age 14. Boys whose last names start with A through M will try out at 8 a.m., and boys whose last names start with N through Z will try out at 10 a.m.

A special registration for all boys ages 13 through 17 will also be held in conjunction with the tryouts. President "Robbie" Robinson urges all boys eligible to register as the Colt League registration is lagging.

Boys who do not try out will not be eligible to play during the regular season, Robbie cautioned, so boys unable to try out at the scheduled time should contact player agent Del Mathis, 375-9027, to arrange for an alternate try out

## **Final Registration** For Little League **Slated Tomorrow**

The final registration date for the China Lake Little League will be held Saturday, March 27, from 9 a.m. until Noon at Diamond 4 (across from the bowling alley). All boys ages 8 to 12 who have not already signed up are asked to do so at this time.

In addition, Dick Hughes, president of the Little League, has announced that boys, ages 10 to 12, who were unable to attend tryouts for the Major League, will be able to do so on Saturday

CARE USE

**EASTER SEALS** 

TO HOLD CLINIC-Helen

Duval, California Women's

Bowling Association (CWBA)

field representative, will visit

NWC April 4 to hold instruction

clinics at the China Lake Bowl

and at the Ridgecrest Bowl. All

men, women and children in-

terested in bowling are invited

to attend. Times will be an-

nounced. The holder of a 200

average and winner of many

titles, Mrs. Duval's visit was

arranged by the local Women's

Bowling Association.



ROCKETEER

NEW GREEN FEES-China Lake Golf Club pro Paul Someson and pro shop attendant Vicki Gerhart post new rates for the golf course, including a non-consecutive month membership for individuals and families. Greens fee and membership rates are as follows: Sat., Sun. & Holidays Wookdave

Green Fees	weekdays	Sat., Sun. & Holidays
Active Enlisted	75 cents	\$1
Officers, civilian guests	\$2 9 holes	\$3 9 holes
	\$3 18 holes	\$5 18 holes
Membership	Single	Family
Annual monthly	\$12	\$17
Non-Consecutive Monthly	\$16	\$23
Active Duty, Enlisted	\$2 per month	and the second second

# Kern County Board Of Trade **Pays Visit To Local Area**

The Naval Weapons Center, assisted in coordinating the visit among other areas of Indian Wells with Ridgecrest officials and ac-Valley, was visited by the Kern companied them on their visit to County Board of Trade on Wed- Michelson Laboratory, their innesday, March 24 when the county spection of the new East Kern economic board convened in the community college site, and on adjacent city of Ridgecrest this tours of the various industrial, week. The special visit of the commercial and residential Board of Trade to the Valley was developments in the local area. hosted by the Ridgecrest Chamber In addition to the Board of Trade, f Commerce.

#### **NWC Participation**

Affairs Officer, accompanied other county officials participated Ridgecrest city officials in meeting in the meetings. the visitors at the Inyokern Airport and remained with them throughout their day-long visit.

Representing the Center, Capt. A. E. May, NWC Deputy Commander, and Dr. Walter B. LaBerge, NWC Deputy Technical Director, attended a civic luncheon with the board members and local Chamber officials at the Hideaway in Ridgecrest.

Following the luncheon a special program was presented to the visitors at NWC's Michelson Laboratory. They were officially welcomed to the Center by Capt. May and then shown films on "Laboratories of the Naval Weapons Center"; "Bits and Chips", a film concerning the Machine Shop; films and slides of the Indian Wells Valley community.

Relations Assistant for the Center, cordially invited to attend.

members of the Kern County Board of Supervisors, led by J. H. McGlothlin, NWC Public Chairman LeRoy Jackson, and

## Aetna Agent At **Community Center** March 30, 31

The Aetna Insurance Representative, Mr. Howard Keenan, will be at the Community Center next Tuesday and Wednesday, March 30 and 31, from 9 a.m. until 4 p.m. on Tuesday and from 9 a.m. until 3 p.m. on Wednesdav

## **Jolly Roger News**

Bob Furey, manager of the Jolly Roger, has announced that the "Chain of Fools" will return to the EM Club this weekend, Friday and Saturday, March 26 and 27.

Music for dancing will be from 9 p.m. until 1:30 a.m., both nights. Wade W. Allen, Community All members and their guests are Friday, March 26, 1971



# **R.C.** Jones Hits 679 **As Allied Sets Record**

three-game high at Hall Memorial year, in the Premier League.

series score of 632. Other members Brown, 222. of the team assisted in the scoring: On March 19 Dean Lippincott Dowd.

(who won three games) moved a Dean's Pro Shop and back into 525. eighth place.

rolled: Bill King, 214-213-212 (a Lindsey, 231, and Ernie Bevis 239. stairstep) and a 639; Chuck Cutsinger, 215 and 218 for 627: Ralph Brewer, 224 and 208, 627; Dick ,followed by Pat Stone with 538 and Furstenberg 222-200 for 621; Jack Erma Erickson with 537. Rosie Herbstreit, 216 and 610; Floyd Maxwell, 226 and 605; Tom Short, Sue had a 237 game in her trio 205 and 215, 603; and Earle Roby, and Miss Stone a 218. Willie 227 and 601.

Fuller, 221; Dean Lippincott, 218; Erma had a 204. Ken Dalpiaz, 213.

Friday Mixed 4-Some

R. C. Jones, anchor-man for the the league, reported some very Allied Automatic vending squad, high scores bowled in the past two rolled two games of 245 and a 679 weeks. On March 12 Jack Lindsey series to lead his team to a new pounded out a 203-245-233 for a 681 series. Chuck Cutsinger had 206-Lanes. The Allied keglers put 226-207 for a 639. Other big games together games of 1077, 934 and on that night included: Lorraine 1018 for a 3029 series, high for the Johnson, 210; Willie Johnson, 208; Bob Vorwerk, 220; Jack Leininger, John Ito, another member of the 203 and 233; Floyd Maxwell, 229; team, rolled 202 and 238, posting a Ray Freascher, 221 and Jack

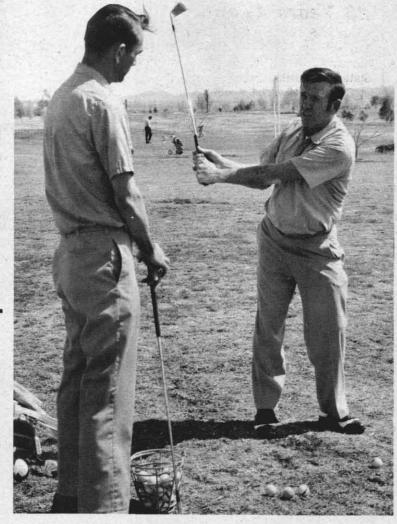
Craig Rae had 200 and 213; Byron fashioned a 669 on games of 212-212 Nelson rolled a 225 as did John and 245. Thad Brightwell had a 608 and Dick Tolkmitt scored a 606. The standings of the Premier Darlene Herbstreit hit 603 which League were shuffled a bit last included games of 202 and 203 and Monday. Allied and B&F Liquor Maggie Branson rolled a 224 series. Patty Maxwell had a nice 222 mere one-half point ahead of NAF, game, and a 552 series. Maggie and Mercury Movers slipped by Branson hit 572 and Willie Johnson

Floyd Maxwell rolled a 223, D. There were many 600-plus series Noland, 210, Allen Smith 214, Jack Women's Scratch

Sue Haack recorded a 571, Pelley was one pin behind with 536.

Johnson rolled a 217, Wanda Dick Bauers rolled 237; Robbie Billings a 211 and Rosie got a 205. Ding-a-Ling's

Adeline Bensene was high with Maggie Branson, secretary of 511 and Diane Blose rolled a 201.



SPRING CLASSIC ON ITS WAY-Jim Kincheloe, last year's runnerup in the Dewing Spring Classic, gives an impromptu lesson to Norman Parks in preparation for this years Classic, April 7-9. The tournament schedule calls for four foursomes to tee off at 7:30 a.m. each day, with the rest of the players in a shotgun start at 12:30 p.m. Non-tournament golfers will be allowed to play in the morning, but must be off the course by noon. All military personnel at NWC are eligible to play in the Classic.

Southeast Asia,

prisoners. clude

Friday, March 26, 1971

### ROCKETEER

#### Page Three

# GOT A MINUTE?



MERICAN SERVICEMEN RETURNED FROM NORTH LAJ VIETNAM PRISONS HAVE REPORTED INHUMANE TREATMENT BY THEIR RED CAPTORS. HANOI WON'T TELL US THE NAMES OR THE NUMBERS OF OTHER AMERICANS STILL LANGUISHING IN THEIR PRI-SONS. PRISONERS PROBABLY THINK WE'VE FORGOTTEN THEM. IF YOU HAVEN'T, HERE'S A WAY TO HELP: WRITE A LETTER!

# POW/MIA Week ...

(Continued from Page 1) Protection from abuse and reprisals.

For the most part, North Vietnam has not abided by these articles. Recently, however, an effective letter writing campaign seems to have had some effect in establishing contact with, and providing some comfort for, these unfortunate men, many of whom are being held virtually incommunicado, with little or no contact with their families or the outside world.

It has been disclosed that fully 75 per cent of all mail received from prisoners in North Vietnam has arrived since October, 1969, although more than 200 prisoners have been held captive for longer than four years. There has been no word at all concerning another 1,000 men listed as missing in action. The increase in mail was coincident with intensified letter- 49 Avenue Cambaceres writing and other activities by wives of both prisoners and those missing in action, including appeals to government leaders. throughout the world.

Anyone can try to help these men by writing, unofficially, to one or more agencies concerned with activities is the National League of Families of American Prisoners in

Persons wanting to make a more Prince Souphanouvong direct appeal may consider writing c-o M. Sot Pethrasi directly to the Office of the Neo Lao Hak Sat President, Democratic Republic of Representative Vietnam, Hanoi, North Vietnam. In all cases, letters should be

Other agencies and publications

UNITED NATIONS Secretary General U Thant United Nations Headquarters New York, N. Y. 10017

#### CAMBODIA

Mr. Thay Sok Charge d' Affaires Embassy of Cambodia 4500 16th St., N.W. Washington, D.C. 20011 Agence Khmere Presse Ministry of Information Phnom Penh, Cambodia

Le Depeche Du Cambodge Phnom Penh, Cambodia

FRANCE His Excellency Charles Lucet Embassy of France 2535 Belmont Road, N.W. Washington, D.C. 20008

Delegation of the Democratic Republic of Vietnam 8, Avenue General Leclerc 94 Choisy-Le-Roi Paris, France

Madame Nguyen Thi Binh Representative of the Provisional Government of South Vietnam Vierrieres - Le Buissons 91 Essone Paris, France

#### INDIA

His Excellency Nawab Ali Yavar Jung Embassy of India their welfare. One of the best such 2107 Massachusetts Ave., N.W. Washington, D.C. 20008

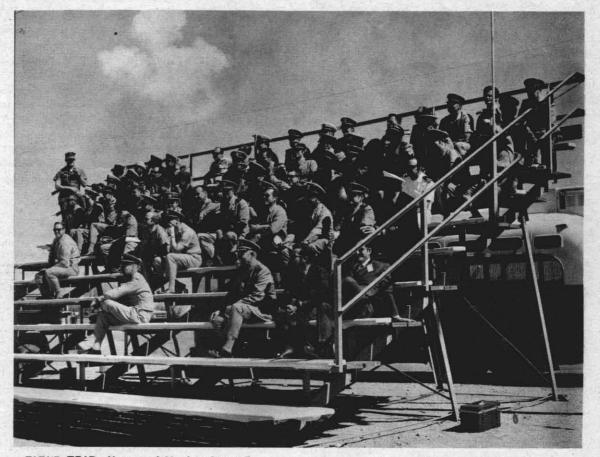
LAOS

Vientaine, Laos SWEDEN confined to remarks concerning The Honorable Torsten Nilsson the humanitarian treatment of Minister of Foreign Affairs Stockholm, Sweden to which persons may write in- His Excellency Hubert de Besche Embassy of Sweden

2249 R St., N.W. Washington D.C. 20008 U.S.S.R The Honorable Andrei Gromyko Minister of Foreign Affairs Moscow, U.S.S.R His Excellency Anatoliy F. Dobrynin Embassy of the Union of Soviet Socialist Republics 1125 16th St., N.W. Washington, D.C. 22236



PREPARE FOR WILDFLOWER SHOW-Mrs. Wildflower Show, May 1 and 2 at the Community Ruth Moran, Mrs. Clare Hunter, Mrs. Polly Center. A branding iron, spurs and a copper kettle Zimmer and Mrs. Ditty Riggs prepare a dried complement the arrangement, completing the arrangement in preparation for the 25th Annual theme "The Old West Revisited."



FIELD TRIP-Navy and Marine Corps Reserve officers are shown at Charlie Range where they witnessed a weapons delivery demonstration. The officers were at NWC as part of a field trip during

a two week law seminar sponsored by the Commander, Amphibious Force, U.S. Pacific Fleet, in San Diego. During their visit here they also received a briefing on current NWC projects.



NAVY RELIEF VOLUNTEERS AWARDED Mrs. Joan Ellefson for 1,000 hours of Navy Relief PINS-Capt. A. E. May, Deputy Commander of and Mrs. Sandra Bozony for 100 hours each of volunteer service devoted to Navy Relief, and to

service. Mrs. Jean May, Chairman of Volunteer NWC, presented pins to Navy Relief volunteers (I- Women of Navy Relief, also attended the r) Mrs. Barbara Schell, Mrs. Barbara Rinehart, ceremonies held in the Deputy Commander's office this week.

-Photo by PH3 Ronald Gray Mills, USN

#### Page Four

Friday, March 26, 1971

Fog-Dispersal Program 'Foggy Cloud'

# **NWC Joins With Other Agencies** To Combat Effects Of Warm Fog

The deleterious effects of "Fog" on military as well as civil activities are well known. Delays in arrivals and departures as well as frequent reroutings of scheduled airline flights are not only inconvenient but also expensive, and result in annual financial losses that run into the millions of dollars. Traffic jams and multi-vehicle accidents on our nation's highways have frequently occurred, and military air base and shipping activities have been seriously hampered as a result of this phenomenon. Indeed, fog-related losses, including personal injury and death, have been staggering! Unless the problem of reducing the effects of fog is soon solved, losses can be expected to maintain pace with the ever-increasing activity in areas of transportation and logistics.

At the Naval Weapons Center, a continuing series of experiments in warm fog dispersal is in the process of being conducted under the direction of Dr. Pierre St. Amand, Head of the Research Department's Earth and Planetary Sciences Division, and Project Director Dr. Richard Clark.

Known as Project "Foggy Cloud," the approach has been to seed various layers of warm fog with hygroscopic agents and to measure the relative effects.

The experiments have been conducted over the past three years, during the fog seasons, at the Arcata-Eureka airport at McKinleyville, California, which has a high incidence of dense fog during the summer and fall months of the year. The projects were named Foggy Cloud I, II, and III respectively and were conducted jointly, or in collaboration, with various other military and civilian agencies, namely: the Army's Atmospheric Sciences Laboratory, White Sands Missile Range, New Mexico; the Navy Weather the problem of targeting. Research Facility, Norfolk, Va.; the Air Force Cambridge Research Laboratory, Bedford Mass.; Cornell University Aeronautical Laboratory: local units of the FAA and Bureau of Standards, Arcata; and the Department of Aviation, Humboldt County.

Foggy Cloud I was a "screening phase." During this period many materials and seeding techniques early stage through the on-site base. dispersal agent, in September 1968, held. and the technique which best fectiveness, in September 1969.

The fog dispersal agent series. As previously stated, developed is a solution of am- measurable effects were noted in Ammonium nitrate and urea are of the pudding" lies in has been learned, unexplored downwash only. It is hoped that fertilizers commonly used in operationally significant clearings, areas and ideas still exist. agriculture. This solution has been or the ability to improve fog During the latter portion of the near future. fog-dispersal testing.

#### **Progress Noted**

testing in Foggy Cloud II, summer background knowledge necessary relatively shallow (200-300 ft. An innovation, again being (Continued on Page 8)

1969, nearly all seeding was accomplished at or near the tops of fogs and several flight patterns were still being examined. Late in the project season, findings indicated that while measurable effects were noted in many cases, operationally significant clearings were achieved only on fogs no greater than 500 feet thick. It was also noted that rapid, repeated treatments to the same fog volume increased the degree of clearing. These findings led to the technique of seeding, in the fog, at an altitude no greater than 500 feet above fog base. Subsequent on-top seeding was accomplished only if the fog thickness was 500 feet or less. In addition, a "dog bone" flight pattern (so named for its appearance on a radar plot as a straight line with hooks on each end) was found to be most effective for rapid, repeated treatment.

The success of an experiment is dependent upon precise procedures. In operational general, these procedures are as follows:

1. A pre-operations briefing is held about two hours before sunrise.

2. Ground-based observers, data collectors and support personnel are deployed and commence assigned tasks.

3. Two light aircraft, one equipped with special meteorological instrumentation (minilab plane), and the other with an aerial camera (photo plane) are launched and commence preseed fog sampling and photographic documentation.

4. The seeder aircraft is launched, acquired by radar, and kept under control.

5. A balloon-borne weather radiosonde is released to provide a vertical profile of fog properties and a vector wind is computed. This wind is used to determine the movement of the fog and to resolve Targeting is necessary in order to place the treated fog volume over the airport at the desired time.

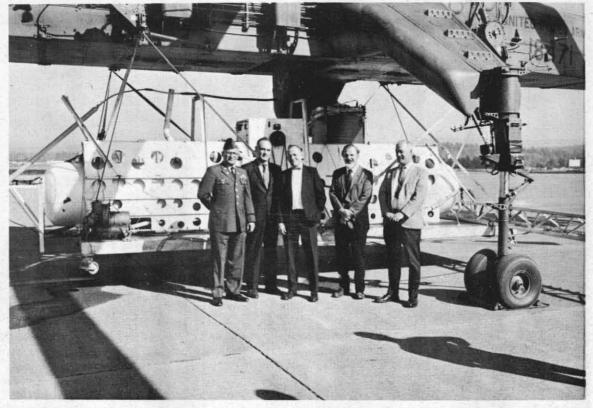
6. Near sunrise, the seeder aircraft (under radar control) begins seeding. Duration of seeding time may vary but averages about 30 minutes. During this time eight to ten successive treatments to the approaching fog volume are accomplished.

were employed in an effort to 7. Data collection continues for isolate the most promising. The one hour after the end of seeding, project has progressed from this at which time all aircraft return to

development of a most promising 8. A post-operations debriefing is

To date, over a hundred fogcomplements the agent ef- dispersal tests have been conducted during the Foggy Cloud

During the early course of accomplished to provide helicopter of this type can disperse fectiveness.



JOINT EFFORT-Project FOGGY CLOUD has been a joint effort in collaboration with other federal and civilian agencies. In addition to the NWC's work, effort has been expended by the Army's Atmospheric Sciences Laboratory, the Navy Weather Research Facility, the Air Force Cambridge Research Laboratory, Cornell University, local units of the FAA and Bureau of Standards, and the Humboldt County Department of Aviation. Above, Project principals on FOGGY CLOUD III pose in front of the specially equipped

Army CH-54 SKYCRANE helicopter used in the tests. Left to right they are: Col. Richard Chabot, C. O. and Director of the Army's Atmospheric Sciences Laboratory, White Sands, N. M.; Dr. Vincent Hanoman, U.S. Army Scientific Advisory Committee; Alex Blomerth, Head of the Atmospheric Physics division at the White Sands Missile Range; Dr. Pierre St. Amand, Head, Earth and Planetary Sciences division, NWC; and Dr. Richard Clark, NWC, Project Director.

-NWC Photo



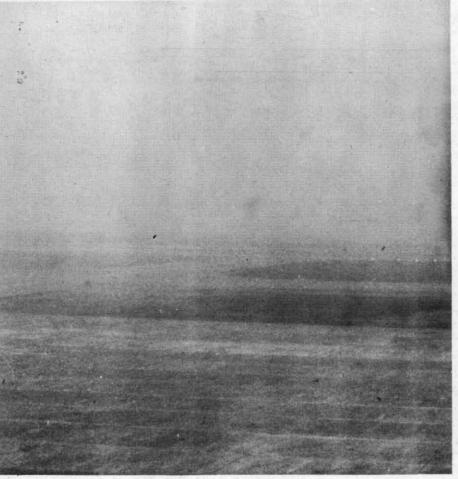
planned tests can be continued in

hygroscopic nature confirmed. In normal flight operations. Using tests using an Army CH-54 (Foggy Cloud IV) include con- measure the effects of injecting general, to be less corrosive than Cloud "state of the art" indicates planned jointly with the Army's dispersal testing at Arcata during into a fog. sea water. Since its development in promise of high effectiveness. Atmospheric Sciences Laboratory, the upcoming months of August As many as 200 personnel from 1968, this solution has been the In addition to actual fog- White Sands Missile Range. Due to and September. Efforts will be NWC have had some role in the agent of choice for all NWC project dispersal tests, a near equal inadequate fog conditions planned directed toward further im- execution of Project Foggy Cloud. number of support tests have been tests were incomplete; however, it provement of targeting techniques Current active NWC participants carried out. Support tests were was demonstrated that a and increased operational ef- are as follows:

FLYING LAB-A Cessna 337 was equipped with a Mini-lab (inset) for measuring various atmospheric parameters such as temperature, dew-point, liquid water content and altitude of a target fog environment.

planned jointly with the Atmospheric Sciences Laboratory, will see a set of experiments laboratory tested and its extreme conditions at an airport to permit Foggy Cloud III, 1970, a series of Future plans for Foggy Cloud baloon. These experiments will employing a manned, hot-air corrosive tests it was found, in this criteria, the present Foggy "Skycrane" helicopter were tinuing the fixed-wing fog- electrostatically charged particles

#### ROCKETEER



TYPICAL FOG-CLEARING SEQUENCE-The photo at left is the usual environment for FOGGY CLOUD testing. When this ground-level shot was taken, the airport was closed with a ceiling of less than 100 feet and visibility was less than one-quarter mile. At right, the same area was photographed twenty minutes later, following "seeding" by project



aircraft. Conditions improved to a ceiling of 300 feet and visibility was increased to 1 mile. This test was conducted in the Arcata-Eureka area at the McKinleyville, California, airport on September 28, 1970.

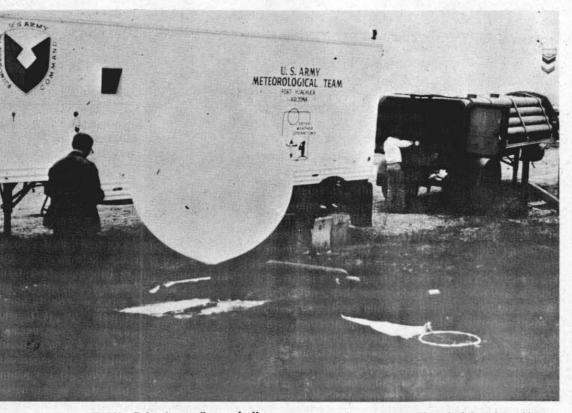
-NWC Photo



SEEDER AIRCRAFT-The above World War II vintage modified B-26 was used as one of the "Seeder" aircraft in Project FOGGY CLOUD experiments. The plane is specially equipped with

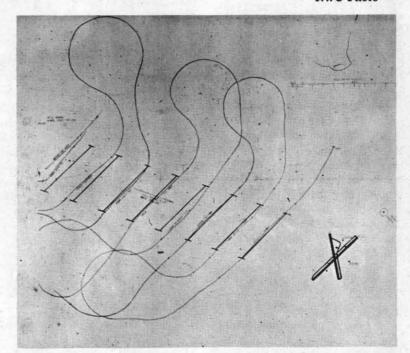
a 1,000 gallon agent-dispersal tank. A modified DC-7 equipped with a 3,000-gallon tank was also used

-Aircraft photos by Marty Shelton



provide a vertical profile of fog properties and a the problem of targeting.

TEST PREPARATION-Prior to seeding, a ball- vector wind is computed. The wind data is used to oon borne weather radiosonde is released to determine the movement of the fog and to resolve



SEEDING TECHNIQUE—After a great deal of experimentation, a "dog bone" flight pattern (so named because of its appearance on a radar plot as a straight line with hooks on each end) was found to be the most effective technique for rapid, repeated treatment. The technique is used at an altitude no greater than 500 feet.

# Scientific Facts Basic To 'Foggy Cloud'

#### Warm and Cold Fogs

Fog can be simply defined as a cloud, based at the earth's surface, consisting of suspended, minute drops of water in a saturated atmosphere. If the temperature is above freezing fogs are termed "warm." If the temperature is below freezing fogs are called supercooled or "cold." Operational dissipation of cold fog has been a reality for several years. This type of fog can be "snowed out" with the injection of dry ice, silver iodide or propane. Ninety-five per cent of the fogs in the inhabited area of the earth are warm fogs.

#### Approach

Project testing to date has, for the most part, consisted of measuring the effects caused by spraying various hygroscopic agents into fogs. Hygroscopic means having an affinity for water. Common table salt is an excellent example. These hygroscopic particles absorb water vapor from the fog atmosphere and grow to a large enough size to begin falling. This extraction of water vapor effects a drying of the fog atmosphere with a subsequent evaporation of the liquid fog drops. As these particles continue to fall through the fog, growth is further increased by the collection of droplets in their path. This "sweep-out" results in a light rain or drizzle at the surface, followed by improved visibility.