

PACK RATS'



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CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

CHEESE BITS



MT. AIRY VHF RADIO CLUB, "THE PACK RATS", PHILADELPHIA, PA. W3CCX
NET FREQUENCIES: 50.150, 144.150, 222.125, 224.58/222.98, 432.110, 903.100, 1296.100 MHz
AFFILIATED CLUB: AMERICAN RADIO RELAY LEAGUE ARNS

Meetings: Third Thursday of each month at 8:00 PM
Southampton Free Library, 947 E. Street Road
Southampton, Pennsylvania 18966

SCANNED TO PDF BY BERT, K3IUV, 2013

VOLUME XXXVI

September 1994

Number 9

THE PREZ SEZ

A big thanks to Dave Hackford, N3CX and his wife Sylvia for again hosting our picnic. Dave and Sylvia always know how to put on a club picnic in excellent Packrat style. With plenty of good food, athletic events, and socializing this year's picnic was well attended. Thanks to all the Rats and their families who came out this year.

Our Hamarama plans are well under way for the weekend of October 1st and 2nd. John, KB3XG has again agreed to chair Saturday's VHF conference to be held at the Horsham Days Inn. Last year was our first time at this new location and things went very well - the facility is just what we require for the conference and Otto's Restaurant next door does a super job with the meals and banquet. John has put together a stellar line-up of VHF notables for Saturday's talks covering a wide range of topics of interest to the weak signal VHF'er. Among the speakers are K1FO, N1DPM, WD4KPD, W9IP, and N3AOG to name a few. The conference always provides a unique opportunity to learn what others are doing in the VHF/UHF/Microwave weak signal area and to place a face with the various call signs you've worked on the bands. Come on out to the conference and recharge your VHF batteries!

On Sunday the 2nd we'll be holding our fleamarket at the Bucks County Drive In on Rt 611 in Warrington. Many of the local hams were very pleased to have us back to the Drive In, as evidenced by an extraordinary turnout; this year's attendance is bound to be even better! Both the conference and flea market are quite important club events. It's absolutely essential that every Packrat participates in both activities; if you haven't volunteered for anything yet please talk to myself or KB3XG as soon as possible.

Our September meeting will feature a practical-minded talk on yagi antenna construction for VHF by several club members. Replacing or upgrading one of your antenna systems might be just the key to improving your success on a particular band. We'll be putting together a club antenna project following our September meeting. Bring a friend to the meeting!

I worked a fair number of Packrats in the August UHF contest - I hope to work even more of you in the September QSO party on the weekend of the 10th and 11th. Please at least get on during the activity hours if your operating time is limited.

73, Paul Drexler, WB3JYO

Pack Rats **CHEESE BITS** is a publication of the Mt. AIRY VHF RADIO CLUB, INC. Philadelphia, PA. and is published monthly.

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DEADLINE FOR ARTICLES AND SWAP SHOP IS THE MONTHLY MEETING DATE. NON-COMMERCIAL SWAP SHOP ITEMS-FREE OF CHARGE.

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MONDAY NIGHT NETS

<u>TIME</u>	<u>FREQ.</u>	<u>NET CONTROL</u>
7:30 PM	50.150 MHz	K3EOD
8:00 PM	144.150 MHz	W2EIF
8:30 PM	222.125 MHz	WB2YEH
8:30 PM	224.58R MHz	K3ACR
9:00 PM	432.110 MHz	WA3AXV
9:30 PM	1296.100 MHz	WA3NUF
10:00 PM	903.100 MHz	N3AOG

COMMITTEE CHAIRMEN

LADIES' NIGHT: WA3YUE 610-630-1875
JUNE CONTEST: WB3DNI 215-672-5289
HAMARAMA: WB3JYO 609-538-1687
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Calendar of Coming Events -September 1994

Sept.

- 1 **Canadian UHF Sprints** at 1900 to 2300 local time. Includes 903, 1296 and 2304 MHz. See the September issue of CQ for details. Exchange is call and grid square. Scoring is number of contacts times the number of grid squares. Send logs to Dana Shtun, VE3DSS, 500 Willard Ave., Toronto, Ontario M5S 3R6, Canada.
- 2 Birthday of Hiram Percy Maxim, W1AW on Sept. 2, 1869.
- 5 **Labor Day**
- 6 **First Day of Rosh Hashana**
- 7 **Canadian 432 MHz Sprints**, 1900 to 2300 local time. See 1 Sept.
- 8 Mt. Airy VHF Radio Club **Board of Directors meeting** will be held at the QTH of Bob, W3GXB. Call 215-346-8698 for directions. Directors and all interested parties are welcome.
- 11 **37th Annual F.A.R. FEST (Gaithersburg Hamfest)** will be held at the Montgomery County Agricultural Center (Fairgrounds) in Gaithersburg, MD. TI on 146.955. VE Exams.
- 10-12 **September VHF QSO Party**. Starts 1800 UTC Sat. and continues thru 0300 UTC Mon. See Aug. QST, page 100 for rules. Get on and at least give out a few points. Participation Pins available for everyone making 25 or more contacts.
- 13 **Canadian 222 MHz Sprints**, 1900 to 2300 local time. See 1 Sept.
- 15 **Yom Kippur**
- 15 **First indoor meeting** of the fall season of the Mt. Airy VHF Radio Club will be held at the Southampton Free Library on Street Road in Southampton, Pa. All members and interested VHFers are invited to meet and share with us. The program will present home brew VHF/UHF antennas. A club project will follow.
- 16-18 **ARRL 10 GHz Cumulative Contest**. See August QST, page 100 for rules.
- 18 46th Annual **SJRA Hamfest** at the Pennsauken High School in Pennsauken, N.J. VE Sessions. Talk-in on 144.69/145.29.
- 22-24 **Microwave Update** will be held in Estes Park, Colorado. Contact K0RZ or W0KJY for information or WB5LUA for coordination of technical talks and papers.
- 24-25 **York Hamfest** sponsored by the York ARC and Keystone VHF Club and Hilltop Transmitting Society. TI on 146.37/97. VE exams.
- 26 **Canadian 144 MHz Sprints**, 1900 to 2300 local time. See 1 Sept.
- Oct.
- 1 The **18th Annual Mid-Atlantic VHF Conference** will be held at the Quality Inn in Horsham, PA. Admission \$10 in advance or \$10 at the door (includes HAMARAMA). For further info, contact the Conference Chairman, John Sortor, KB3XG, 215-260-5616
- 2 **Hamarama 94** will be held at the Bucks County Drive-In on Rte. 611, In Warrington, Pa.

SWAP SHOP

(send all ads to the editor)

For Sale: 1296 and other antennas. Contact: Bill, W0RSJ, at 610-252-3956

Wanted: KLM Echo II, 2M SSB Transceiver, Icom 502, 202 Transceivers. Contact: Chris, K2PGB, 908-782-7414 evenings or K2PGB@W2EMU-4 (Packet).

EASTERN VHF/UHF CONFERENCE REPORT

By John, KB3XG

The Northeast VHF/UHF Conference provided microwave enthusiasts with a full weekend of activities. We arrived at the hospitality suite very late Friday evening. There were a few "hard core" hams discussing contest philosophies. Many empty beer bottles and bags of chips were strewn about the room indicating that a good time was had by all.

Saturday brought a more ordered technical forum. The Northeast VHF/UHF Conference offers, along with technical presentations, six informal band sessions. Each band session is moderated by a well known operator on that band. I listened while many "big guns" offered their opinions. I realized after sitting in on a few of these sessions that there are a lot of operators out there who are genuinely excited about VHF.

I missed K1LPS - "Low Cost 10 GHz Wideband FM gear", but caught most of N1BWT's talk on dishes. Paul's main point was that accuracy IS important, especially at 10 GHz. If you don't match the feed beamwidth to the dish f/D, you lose dB's. If you don't feed exactly at the focal length, you lose tens of dB's. If you make mistakes on other stuff, you lose tenths of dB's.

WA2TEO did a statistical analysis of the top 3 operators of the 1993 and 1994 January Contest. N2CEI, WA8WZG, K1RZ were kind enough to offer Jeff their logs for analysis. CT was used to compile the QSO data. WA2TEO also compared location and equipment. Each operator had different strategies that ranged from 1). QSYing each new contact through the other bands operated, 2), staying on 2M most of Saturday then hopping around the bands and 3). grid hunting right from the start. The analysis showed that all did equally well in terms of points. I'm sorry the graphs were not published in the proceedings.

KC1HR had a working digital receiver. This project was made possible by a digital downconverter (DDC) chip from Harris. It was interesting to see a receiver with no mixer or detector. The receiver performance did not compare to current standards. The performance is limited by the A/D chip. Peter told us that as soon as 20 bit, 75 mega sample per second A/D's become available and affordable, this receiver topology will offer comparable performance with more flexibility at lower cost.

I missed WB1CMG - "RF Power Amplifiers Demystified", but enjoyed W3EP's talk on Field Aligned Irregularities (FAI). Emil explained that as E-skip is starting to fade out, additional contacts can be made by pointing your antenna at the center of the E-skip cloud. The cloud acts like a reflecting cylinder which illuminates a upside-down horseshoe shaped curve on another section of the country. The signals are weak but this explains why guys in our area can work into Texas and Florida at the end of an opening.

In addition to the talks, KH6CP was running a LNA contest. LNA's were tested up through 10.4 GHz. The conference proceedings concluded with KA1ZE pleading with club members to run for office. Stan should take lessons from the Pack Rats on the fine art of railroading.

The banquet was a success with almost everyone going home with a door prize. The hamfest on Sunday morning attracted a very select group of buyers and sellers. There were maybe a dozen sellers, but all had premium microwave junk on display. People started to run out of money around 11 am. The side parking lot was roped off and an antenna range was set up. After inviting everyone to the Pack Rat Conference and Hamarama, we said our 73's and returned to FN20. Rats at the conference were KB3XG, WB3JYO, N3NGE, N3CX, WB3DNI and WA2GFP.

TID BITS

In the July/August issue of NCJ, Jon, NO0Y, reviews the use of logging programs in VHF contests. Reviewed are CT version 8, NA and VHFTEST 2.30. CT and NA are both commercial programs and VHFTEST by WG3E. It is available free from Bruce Richardson, KE9QT. A prepaid mailer and disk are suggested for VHFTEST. Not reviewed is Dave, WA3JUF's logging program that many of the Packrats have used for years and is continuing to have added features.

The ARRL Letter reports that Packrat Walt, N3EUV, and NN3C and W3ZXV set up a 22 ft by 13 ft corner reflector to receive 21 MHz radio noise from Jupiter. Audio tape and strip chart recordings were made and sent to the Society for Amateur Radio Astronomy for analysis.

WI2T is reported to be planning operation as KG4JO in Guantanamo Bay, Cuba during the September VHF QSO Party. Operation is limited to 6 meters.

Goodby and Farewell

Around this time of the year we usually have to say goodby to a few rats that are off doing other things. Dues are due Jan 1 so after many notices and phone calls, we have to list the following as ex-rats: Jim, WA3AAJ, Mike, N3BBI, John, WU3C, Marty, WB2GEZ, Richard, WA3IWT, Elliott, K3JJZ, Bill, W3VIR, Gus, K3GYS, and Jay, KS2T.

VE3ONT Adds 50 MHz EME

By Mike Owen, W9IP, via Internet

As a result of discussions at the recent meeting of the Central States VHF Society, the Toronto VHF Society (VE3ONT) has added 50 MHz to the list of bands to be used in the upcoming EME contest. 50 MHz will be on the air on a non-interference basis simultaneously with 1296 MHz on Sunday of the first EME contest weekend (see schedule below). VE3ONT will use the 46m (150') dish operated by the Institute for Space and Terrestrial Science at Algonquin Park (FN05xw). On 50 MHz, the antenna will be linearly polarized, and output power will be 1 kW.

<u>UTC Date</u>	<u>VE3ONT TX Freq.</u>	<u>Listening Range</u>	<u>Approx. Times</u>
Oct 29	432.050 MHz	432.050 - 432.060	0645 - 1815 UTC
Oct 30	1296.050	1296.050 - 1296.060	0754 - 1844
Oct 30	50.100	50.100 - 50.105	0754 - 1844
Nov 26	144.100	144.100 - 144.110	0538 - 1645
Nov 27	144.100	144.100 - 144.110	0646 - 1713

Because the Algonquin dish has a 9 degree lower elevation limit, stations with horizon-only antennas in eastern North America will have a limited chance to work VE3ONT. We request that az-el capable stations in Europe and North America delay their QSOs with VE3ONT until after moonrise/moonset windows. This will allow the many horizon-only stations a better chance of making an EME QSO during the limited time available. Link budget calculations show that 50 MHz stations with 10 dBd (6 elements or so) beams and 1 kW should be able to work VE3ONT off the Moon; smaller stations are urged to try as well.

The following operating hints will improve your chance of making a QSO: - As in 1993, VE3ONT will work "split" frequency. Do not call on VE3ONT's TX frequency. Pick a random frequency in the listening range. Use the full range. VE3ONT will be looking for stations in the clear. - VE3ONT will use circular polarization on all bands (except 50 MHz). You may use linear or circular polarization to make a contact with VE3ONT. If circular, use RHCP on TX and RX for the 144 and 432 MHz bands. On 1296 MHz, they will have switchable sense so you may use either the satellite or EME polarization convention. - Conditions permitting, VE3ONT may start each operating period on SSB to work strong stations as quickly as possible. Please do not call again for a second contact on CW. Conversely, if you make a contact on CW, please do not call again for a SSB QSO. - All contacts will be "random" with no schedules or sequencing. Please be patient. VE3ONT experienced a great deal of QRM during last year's event. Low power and OSCAR class stations are encouraged to make an EME contact with VE3ONT. 100 watts delivered to a single long yagi should be sufficient on the 144 and 432 MHz bands. On 1296 MHz, stations were worked with as little as 10 watts and a 2m (6') dish in 1993.

Use of the dish at the Algonquin Space Complex is always subject to last minute preemption for non-Amateur purposes. Send QSLs with an SAE to Dennis Mungham VE3ASO, RR 3, Mountain, Ontario, Canada, K0E 1S0. Reception reports are also welcome. Send your log to the ARRL. For further information contact Peter Shilton VE3VD, (905) 774-8766. Latest developments will be provided at the International EME Conference, Gottskars, Sweden, August 26-28. de W9IP August 1, 1994. Michael Owen W9IP
MOWE@SLUMUS.STLAWU.EDU

DIRECTIONS TO W3GXB's QTH

The September board of directors meeting will be held at the QTH of John, W3GXB. Since it's somewhat in the "boonies", a map is provided in this issue of Cheesebits for those that plan on attending. As usual, anyone interested is welcome to come. There is some danger however that you may be "volunteered" into doing something for your fellow rats, but that's why you joined our illustrious group isn't it?

CHEESEBITS SUBSCRIPTIONS

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September 94

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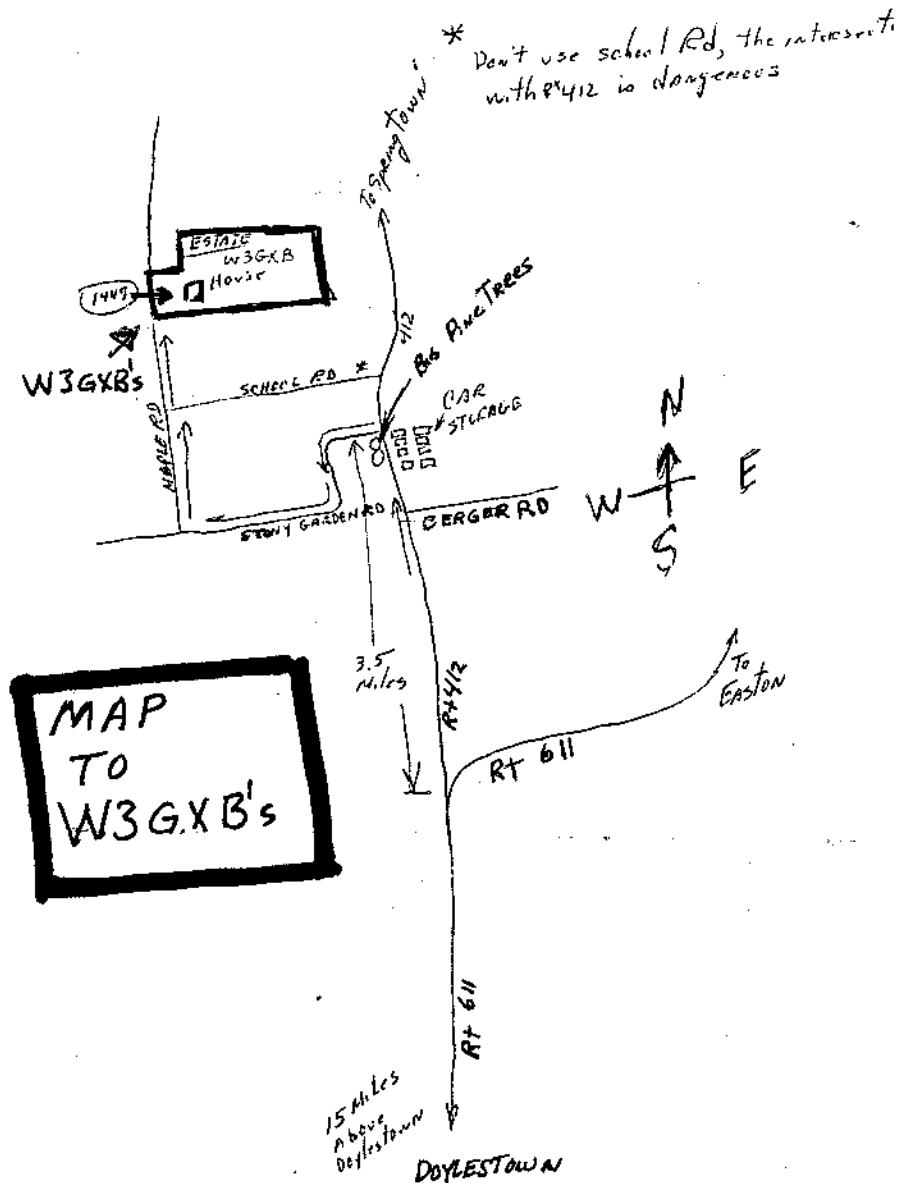
HAMARAMA FLEAMARKET UPDATE

By: Paul, WB3JYO

This year's hamfest will again take place at the Bucks County Drive-In Theater on Rte 611 in Warrington, Pa. Over 200 flyers have been mailed out thanks to a FB lick and stick session recently held at W3IIT's. We thank W3IIT, WA3JUF, WB3JYO, KB3XG, WA3AQA, and N3OZO for helping to get the flyers out.

Our hamfest is the club's one and only fund-raiser of the year. A large number of volunteers are necessary to make the fleamarket a success. Please contact one of the following individuals to help with the various duties:

- | | |
|----------------|---------------------|
| WB3JYO | Chairman |
| KB3IB | Registration Table |
| WB3DNI | Night Time Director |
| WA2OMY/ WA3AXV | Parking |
| N3AOG/N3EXA | Buyer Parking |
| WA3NUF | Vendor Collection |
| WB2YEH | Ticket Sales |
| W3GXB | Signs |
| K3MFI/N3OZO | Advertising |
| W3GAD | Talk-In |



PACKRATS

THE MT AIRY VHF RADIO CLUB, INC

PRESENTS

THE 1994 MID-ATLANTIC STATES VHF CONFERENCE

Saturday, October 1, 1994 - 08:30 to 21:00

Horsham Days Inn, 245 Easton Road
Horsham, PA 19044 (215) 674-2500
Pennsylvania Turnpike, Willow Grove Exit #27
Take Route 611 North one half mile

REGISTER: \$12 at the door. Admission ticket for "Hamarama" is included.

ROOMS: Toll Free Reservations (800) 325-2525
\$61 plus 8% tax. Group rates will be guaranteed until 9/16/94.
Mention "Pack Rats", or "Hamarama" to receive group rates.

SPEAKERS: Fred Stefanik N1DPM "Tower Mounting SHF Transverters"
Chris Fagas WB2VVV "Uniden HR-2510 for Xverter Applications"
Ron Whitsel WA3AXV "Understanding the GPS system"
Dave Wood WB4KPD "Spread Spectrum Communications"
K&L Microwave "Dielectric Resonating Filters"
Dick Comly N3AOG "Home Brew Waveguide"
Warren Whelan WB2ONA "10 GHz Expeditions"
Mike Owen W9IP "Algonquin EME Expedition"
Steve Powlishe K1FO "So You Want to Manufacture Ham Equipment?"

LUNCH: OTTO'S BRAUHAUS - Lunches from \$5.95

DINNER: OTTO'S BRAUHAUS - Dinners from \$9.95

OTHER ACTIVITIES: 30 minutes to downtown Philadelphia (Turnpike to 476 or Route
611) Convenient to Willow Grove Park Mall, King of Prussia Mall, New Hope.

OTHER MOTELS: Holiday Inn Trevoise, PA (215) 364-2000
(no group rate) Marriott Willow Grove, PA (215) 830-0550
Hampton Inn Willow Grove, PA (215) 659-3535
Fiesta Inn Willow Grove, PA (215) 659-9300
Warrington Inn Warrington, PA (215) 343-0373

MORE INFORMATION: Mt. Airy VHF Radio Club
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John, KB3XG (215) 260-5616



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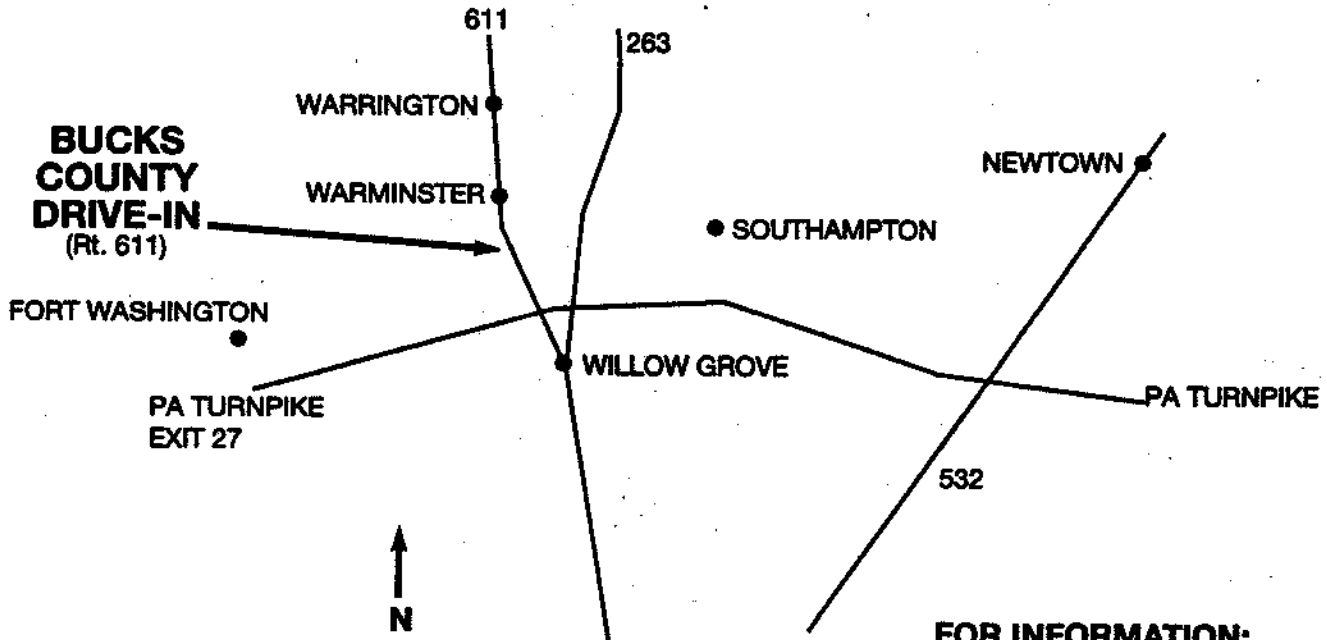
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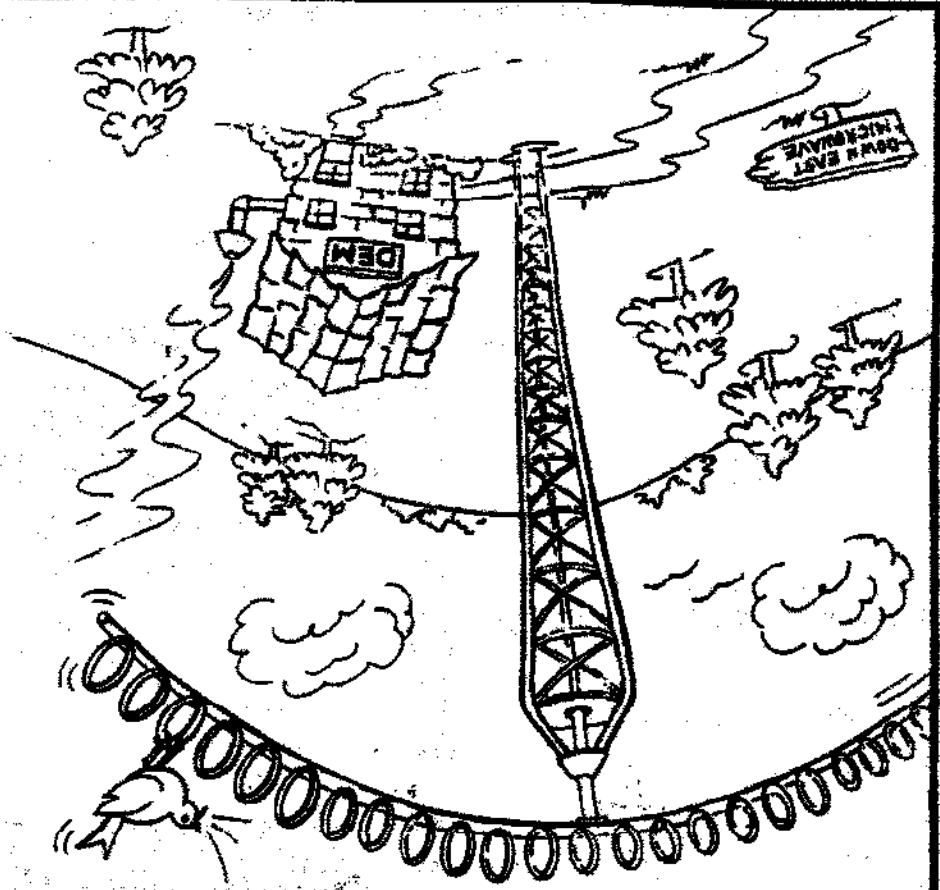
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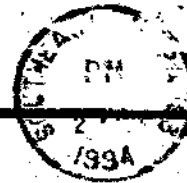
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