

VLA/VLBA

NEWSLETTER

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From the World's Premier Centimeter Wave Radio Synthesis Telescopes

AROUND THE VLA

Arthur Pino will retire on April 30th after 20 years with NRAO. Buen jale, Art!

We still don't have a full list of summer temporary workers, but, so far, Jason Wallace is at the Machine Shop and Joe Rodriguez will be at the Welding Shop. Most workers will start April 5.

Attending the no sick time lunch from the site this year were Dave VanHorn and from PT, Kelly, Gatlin. Stella Gutierrez was unable to attend. Congratulations to all.

NRAO employees are now eligible to be members of the NM Educators Federal Credit Union with offices in Socorro.

TIAA/CREF information on retirement is on display at the Control Building library.

SERVICE AWARDS

Steve Aragon, Phillip Hicks, Arthur Pino, and Robert Sefcovic will be honored at the NRAO service anniversary dinner this month for 20 years of employment. Johnny Montoya and Paul Johnson will be recognized for 10 years of service. All are VLA site employees except Paul who is assigned to the VLBA site at Los Alamos, NM.

In the VLA Project Completion Book, project manager Jack Lancaster reports that 317 persons were hired during the 8 years it took to build the VLA. Of those, 48 remain employed with NRAO today. Only 19 persons of the original 317 remain employed today at the VLA site. All the more important to recognize Steve, Arthur, and the other 17 site employees who were here during the construction phase and are still here. Those of us who came later hope to continue the proud legacy the original employees created.

C. Janes

COUNTDOWN TO 20 YEAR ANNIVERSARY

Twenty years ago, in April 1979, the Phase V construction contract was issued to Wm. A. Smith Contracting Company in the amount of \$2,820,000 for completion of the wye. Seventeen antennas were in use.

C. Janes

BUDGET

The budget this year is not all we hoped it would be, but our problems pale in comparison to budgetary problems that occurred during construction of the VLA. According to VLA project manager Jack Lancaster, the October 1973 oil embargo was started by the OPEC nations just three days after E-Systems signed the subcontract to build the VLA antennas. "Within eight months, the cost of steel doubled and E-Systems claimed they were facing very large losses." By late 1973 the cost of used rail went from \$90 per ton to \$330 per ton. The problems were compounded by funding delays. In response to inflating costs, E-systems was given the money to buy material in greater quantities to take advantage of discounts, and surplus rail was obtained from 28 different locations. The VLA project was completed in 1980 for \$78.6M, little more than the 1971 estimate of \$76M.

From VLA Completion Report, July 1982

SITE & WYE NEWS

Richard Murillo & Shane Baca are in the process of converting our buses' air conditioning refrigerant from R-12 to FR-12, a less expensive & more environmentally friendly one. The Track crew completed rebuilding the rail intersection at CN-7. The re-build required replacement of the soil underneath the area because it was so saturated with water! They also installed concrete rail anchors on the spur extension.

P. Lewis

CONTACT?

Visitors to the VLA often ask if we have made contact with the "little green men". Others see the surplus military vehicles and wonder aloud if we have a Department of Defense mission.

As for aliens, NRAO is funded by the U. S. Government, and our government does not believe in spending money on looking for men from Mars. That work is best left for SETI, Inc., a privately-funded group. SETI stands for the Search for Extra-Terrestrial Intelligence. In fact, the VLA is ill-suited for SETI work because the "beam" is too narrow, that is, both the VLA and VLBA can listen only to a very small piece of the sky at one time. As well, neither the VLA or VLBA can search rapidly over broad bands of radio frequencies, a feature desirable for SETI work. Sorry, Jodie.

All that said, looking for life-forming molecules and studying the formation and evolution of planets, particularly habitable planets, is a high priority for U. S. science. Some of the scientists who use the VLA and VLBA are studying these areas.

The VLA does not have a Defense mission either. Sometimes it may seem we are in the middle of a war when the New Mexico Air National Guard is conducting aerial dog fights right over head, but our mission is purely scientific. We listen to cosmic sources like stars and galaxies with an occasional project to listen to a space probe like Voyager thrown in. Neither the VLA nor VLBA antennas include any transmitting equipment.

D. Finley

**REMEMBER - 4/10s
STARTS APRIL 12!**

WEATHER AT THE VLA

While most people know that VLA Operations monitors scientific data and some 300 odd monitor data points through CHECKER, Operations also provides another service to a whole different community. The VLA is part of Cooperative Observers Climatological Network, which is administered by the National Weather Service. Weather data since July of 1978 has been recorded daily at the VLA by Operations. While there are some gaps in the overall record, I would estimate that the amount of missing weather data to be less than 5% (or less than 1400 items of data missing in a database containing over 29,000 items). At midnight VLA Operations records the high and low temperatures for the previous 24 hours and the current temperature and dew point; at 5 p.m. the precipitation for the last 24 hours is recorded. This is recorded onto a form and mailed to the Weather Service in Albuquerque.

Also mailed to the Weather Service in Albuquerque on a monthly basis is the Fischer data chart. Beside the weather station at the VLA you can see what looks to be a solar-powered white artillery shell; this is the Fischer recorder which is periodically serviced by the Weather Service. The Fischer recorder is a paper tape roughly 2" wide and marked off in hourly segments, with each segment marked off in 15 minute intervals. Every 15 minutes the Fischer recorder imprints on the tape the amount of rainfall that it has collected.

Approximately every 4 - 6 weeks the VLA receives from NOAA a copy of the monthly climatological data for the entire state of New Mexico. This publication is roughly four months behind, the most recent copy being November 1998. These publications can be found in the VLA library.

As for weather conditions, the VLA has probably seen just about everything that Mother Nature can toss at us short of a hurricane. Rain, hail, freezing rain, snow, fog, lightning. A funnel cloud was spotted southeast of the central site last summer (I believe it was in mid-July). Phillip Hicks reports of observing a wind gust in excess of 80 mph; during the spring it is not an uncommon sight to see antennas pointing straight up, having autostowed or been stowed by Operations due to sustained winds greater than 40 mph.

And no self-respecting article in the VLA newsletter would be complete without some interesting tidbits, facts, and trivia. The information below is from January 1990 to present. The coldest temperature for the 1990s was recorded way back on 12/24/90 when it reached the official "nippy" value of -25 F (-31.67 C); this is also the lowest temperature ever recorded at the VLA. At the other extreme the high temperature has been reached three times: on 6/26/94, 6/29/98, and 6/30/98 the high was 97 F (36.11 C). The single day with the most rain was on 9/21/97 with 2.02" (5.13 cm). For snow, it was 4.00" (10.16 cm) which fell on 12/20/97. The wettest month since 7/91 (when daily precipitation resumed being recorded after a break) was August of 1993 with 7.06" (17.93 cm) of rain. And keeping with precipitation, or lack thereof, the longest period without rain and/or snow was from 12/7/98 to 3/11/99: 94 days. The wettest year on record since 7/91 was 1992 with 21.43" (54.43 cm) of rain/snow. The driest year was 1998 with 12.41" (31.52 cm) of rain/snow. Over the last seven years the average rain/snowfall at the VLA has been 17.14" (43.54 cm).

T. Perreault

BACK ACHES

Oh, my aching back. Common complaint, common injury. By far and away the leading cause for Workers Compensation indemnity in New Mexico is back injury and strains. To make matters worse, if you go to a medical clinic complaining of lower back pain, chances are the doctor will not be able to tell you what's wrong.

Most of the time a backache will get better on its own in a month or two, medical sources say. Bed rest won't help; medication and spinal manipulation can give only temporary relief. Most sources recommend a cold application for moderate to severe muscle spasm within the first day of the injury, then heat to relieve pain that lingers after a couple of days. Walking helps, but be careful not to overdo it. See the Web page for the Agency for Health Care Policy and Research for more information or attend the Lovelace "Back to Life" program in Albuquerque. Cost to PPO members for the Lovelace program is \$5.

Back injury prevention is becoming a hot topic for OSHA and safety professionals. Some general rules are to keep your back straight, avoid twisting, and keep a lifted load close to your body. Good posture, lumbar support when

sitting, and getting help with heavy loads also helps. When bending over, lift the opposite leg. Back injuries are often cumulative; that is, they are caused by inadequate back care over a long period of time.

Certain exercises and walking are highly recommended by physicians as part of a back care program. Traditional sit-ups, pull-ups, push-ups, and hip twists are NOT recommended. Alfred Bonati, MD, recommends a series of exercises for back problems in his book, "No More Back Pain," available from this writer. Dr. Bonati cautions to check with your physician before doing exercises if you already have back problems.

Jon Spargo is scheduling a representative from our Worker's Comp insurer, Liberty Mutual, to present a back care program at the site later this year.

C. Janes

HARASSMENT

Roy Norville of the Charlottesville office points out that teasing becomes harassment when the recipient says no. And harassment can be a violation of a person's civil rights if "hot button" issues like religion, ethnicity, sex, or race are involved. Sex harassment, or for that matter any harassment, at NRAO is not permitted.

C. Janes

YOU SHOULD KNOW BY NOW

When entering the odometer reading at the gas pumps, do NOT enter tenths of mile (0.1 mi). Doing so will require resetting the mileage in the computer at the Warehouse.

J. Dowling

VIP VISIT

The Visiting Committee will inspect the VLA site April 15. Consisting of distinguished scientists from other organizations, the Visiting Committee reports to AUI on the overall management of the Observatory. Let's put our best face forward for the visit.

C. Janes