

# VLA/VLBA

## NEWSLETTER

From the World's Premier Centimeter Wave Radio Synthesis Telescopes

### AROUND THE VLA

Welcome to Joel Domschot in the Warehouse, Don Ellis in the Machine Shop, Tony Guerrero in the Auto Shop, Michael Burgert at VLBA-NL, and Mark Alfero has transferred to VLBA-HN. Joining the Track Crew are Kee Apachito, Ronny Baca, Raul Grajeda, Joe Sanchez, Phillip Sanchez, and Fernando Torres. Now on the Paint Crew are Fran Broaddus, Elaine Romero, and Mary Ellen Sanchez. Joe Rodriguez is now helping out in the Welding Shop.

Lew Serna and Allen Lewis represented NRAO at the Alamo Career Fair in April. Both accepted an invitation to join in some tribal dances.

Patty Lindsey and JoHelen Cason were honored for Secretary's Day at the Eagle Guest Ranch by several of the engineers and supervisors.

Bob Pound, a physicist at Harvard and an accomplished microwave researcher and engineer, visited the VLA while he was in Socorro attending the Visiting Committee meeting. Bob has been a member of the AUI trustees since 1976 and remembers the 1980 VLA dedication well. A photographer at heart, Bob took several pictures of the array with his new digital camera. He hopes to "stitch" the images together later to form a panoramic view.

From the VLA Project Completion Book, NRAO accepted Antenna #24 from the contractor twenty years ago in May 1979. Also, antenna pad CN7 was first occupied the same month.

Another spinoff of the new computer network at the site, the Auto Shop can download color schematics from the Internet and print them on a color printer. The times they are a-changin'!

The annual NMPRA Spring Picnic is scheduled for June 12 at Clarke Field in Socorro.

Thanks to the Carpenter Shop and Shane Baca for putting the Visitor Center restrooms back together. The commodes were falling off the wall.

A follow up on the new control panel for Transporter I; Dave Alderman has a new panel installed in Transporter II now.

### SUN EXPOSURE



Overexposure to the sun presents yet another concern, that of ultra violet radiation (UVB). That tan you get from the sun may look good on you, but at what cost? Studies have shown that the sun's output of UVB causes sunburn, blistering and through repeated exposure can lead to skin cancer and cataracts in the eyes. Living in high altitudes compounds the likelihood of overexposure to the sun. Therefore prevention should be practiced every day, summer and winter, by wearing protective clothing and sunglasses, avoiding too much mid-day sun, and using sunscreen, minimum SP15 (available in the warehouse).

G. Cole

### WORK AT OWENS VALLEY

On March 24<sup>th</sup> and 25<sup>th</sup>, John Wall replaced an input seal on one of the azimuth gear boxes at VLBA-OV. In the process, it is possible to drive the seal further into the gear box and up against the input shaft bearing. If this happens, it is necessary to open up the gear box and drive out the seal from the inside. To get to the seal from the inside, the thrust bearing and spacers have to be removed requiring special tools. Also, prying out the seal could damage the input shaft.

At Owens Valley everything went very well. A chain hoist attached to the H-beam above the gear box was used to remove the motor.

The motor mounting flange was removed, exposing the Falk coupling. The coupling was removed and the seal pried out. A new seal was installed and everything was put back together.

R. Molina

### VLBA PANEL REPAIR

Several primary reflector panels have been damaged and the cost of replacing these panels is between \$2500 and \$4000 each. Recently, we decided to try removing the damaged surface skin and rivet a new aluminum sheet in place using aircraft industry tools and repair techniques. As a test, a few surplus aircraft skin tools were procured and R. Gutierrez, J. Wall and J. Thunborg replaced a surface skin. Pat Madigan, in the machine shop, made a contour template so that the repaired surface could be checked. The repaired panels measured at least as good as the existing undamaged panels.

The cost of this repair, excluding a one time tooling cost, was approximately \$100 for material and two man-days of labor (excluding painting). As a result, we are ordering the tools and material required to repair the remaining damaged panels in the storage area. See VLBA Antenna Memo No. 17 for more information.

J. Thunborg

**WEATHER DATA FOR  
MARCH 1999**  
HIGH: 72 F (21ST)  
LOW: 11 F (14TH)  
PRECIPITATION FOR THE MONTH:  
0.25" OF SNOW (17TH)

## MMA TEST

Ground was broken, in a sense, for the MMA two-element test interferometer at the VLA during April. An initial proposal for the MMA calls for two 12m antennas to be erected at the VLA in 2001 to test concept. Contractors planning to bid on the project will visit the VLA May 18. The "ground breaking" was to provide access for the soil testing service. Whether or not the test interferometer is built at the VLA depends on the bid proposals and the availability of funds for two antennas.

G. Stanzione

## 'TIS THE SEASON

As we enter the work periods of spring and summer, let's remember a few precautions. Last year there were several sightings of rattlesnakes and other pests roaming the VLA site, a good indication that they will be back as the weather gets warmer. As a precaution you should: (a)Wear personal protection equipment wherever appropriate, particularly gloves, safety shoes and coveralls; (b)Watch out for rattlesnakes hiding under stoops, vehicles, materials, or anything that may provide cover. This is most important on very hot days when snakes seek shaded areas from the sun's heat; (c)When working out on the array, be careful stepping out of vehicles or working around a lot of brush or water puddles. Remember to follow the two-person rule; (d)Keep your workplace clean. Put things away so as to not create a place for snakes to hide; (e)If you encounter a rattlesnake, keep your wits and report immediately to your foreman or supervisor; (f) By all means, don't play with these snakes. They can strike immediately and without warning.

G. Cole

## SNAP ON TOOLS

If you have any tools that we have purchased from Snap On and have any problems with them, please contact Bertha and they will be sent back to Snap On for warranty replacement. These tools have a lifetime guarantee.

B. Guzman

## LATE WORD

Some open positions have been frozen in response to budgetary concerns. No layoff is expected and the annual salary review is planned.

C. Janes

## OUR TEMPORARIES



The Welding Shop has a tight schedule to install 8 K/Q band feed cone segments this year plus other projects. Joe Rodriguez, an experienced welder, is helping the Shop keep up.



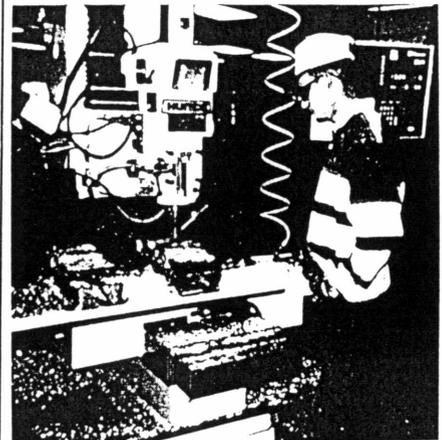
The Track Crew has installed 1520 new ties since April. Joe Sanchez, Kee Apachito, and Raul Grajeda install tie plates...



while Ronny Baca and Fernando Torres spike.



Phillip Sanchez brings more ties to the construction site. The Crew plans to replace ties and level the North Arm all the way to the U.S. 60 crossing.



Jason Wallace is 25% done with the F8 filters' machining which, when assembled by the Electronics Division, will extend the IF bandwidths, greatly enhancing VLA operation.



All that water spray at Antenna 4 is Frank Broaddus, Mary Ellen Sanchez, and Elaine Romero taking the paint off in preparation for painting. They hope to paint two antennas this summer, #4 and #5.