

AOC NEWS



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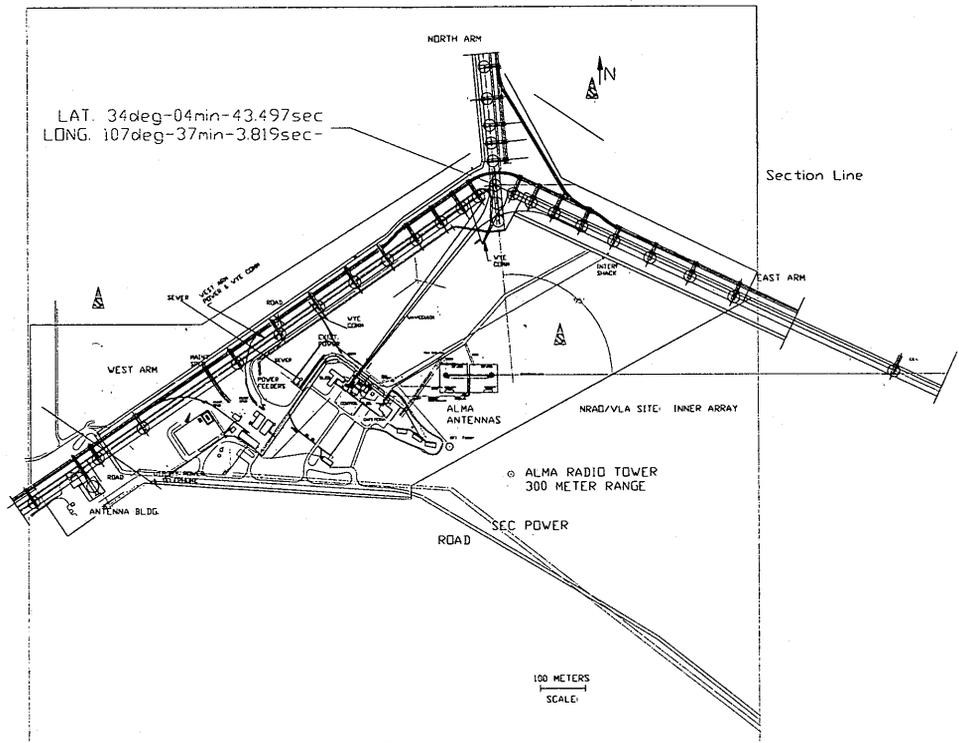
ALMA PROJECT PLACES ANTENNA CONTRACTS

By Peter Napier

The ALMA (Atacama Large Millimeter Array) Project passed a major milestone in February when the US and European partners both signed contracts with antenna companies for their prototype 12 m diameter antennas. ESO (European Southern Observatory) signed its contract with European Industrial Engineering of Mestre, Italy, on 21 February, with an antenna delivery date of 5 December, 2001. NRAO signed its contract with Vertex Antenna Systems of Santa Clara, CA, on 22 February, with a delivery date of 22 October, 2001.

Both antennas will be assembled at the VLA site for testing, first as single dishes and later as an interferometer. There will be three antenna foundations providing interferometer baselines of 25m and 100m. The location of the ALMA testing area is about 600m south of the center of the VLA in the location marked by the two square boxes in the VLA plan to the right. The antennas will be tested until the middle of 2003 when the design of the best cost and performance tradeoff will be selected for quantity production of the 64 ALMA antennas.

As well as the antenna foundations, other ALMA infrastructure to be installed at the VLA includes a transformer to provide Chilean electrical supply voltages and a tower with a 90 GHz beacon for near-field holographic antenna testing. An ALMA control room will be assembled in the VLA Control Building. More detailed information concerning the ALMA testing at the VLA site can be found at: www.tuc.nrao.edu/~demerson/almapbk/test_int/



NEW FACES - Welcome Eric Greisen - NRAO/CV staff, April 3 - October 15, and NRAO Summer Students who begin arriving in May to work in New Mexico through the summer.

Student	Affiliation
Steven Ball	New Mexico Tech
Kathryn Becker	Oberlin College
Edo Berger	Caltech
Melanie Clarke	Carleton College
Ian Hoffman	UNM
Richard Mellon	Penn State

Emmanuel Momjian	Univ. of Kentucky
Nate Murphy	Amherst College
Therese Ostrowski	Univ. of Denver
Stacy Teng	Univ. of Maryland
Timothy Woodruff	Southwestern Univ.
Ashley Zauderer	Agnes Scott College
Bob Zavala	New Mexico State

NM/PRA (photos-for your enjoyment) Photo albums with pictures from the 1999 December Holiday party currently reside in the lobby of the AOC (by the phone). Stop by and take a look. The albums will circulate to the VLA site in a

couple of weeks.

NM/NRAO EMPLOYEE COMMITTEE

On March 13, the city of Socorro stopped providing curbside recycling service for residential customers. Recyclables can be dropped off at bins at Sedillo Park, or at the city recycling center on the airport road. Commercial pickup of recycled materials **will continue at the AOC** and the NMTech

campus, so you may continue to use the blue and grey paper recycling baskets as before.

Peggy Perley

CONGRATULATIONS to recipients of the 1999-2000 AUI Trustee scholarship and to their parents. The winners are: Phillip Grayson, son of Steve and Colleen Grayson; Daniel Perley, son of Rick and Peggy Perley and Jessica Ryan, daughter of Kevin and Pat Ryan.

SCIENCE TALKS

The series of public-level astronomy talks given at the AOC and the VLA site will resume in April. Cornelia Lang will be speaking on "A Tour of The Center of our Milky Way Galaxy." The talk will be a general tour of our Galaxy's center, including some of the latest exciting results obtained with the VLA and other telescopes. Presentations: **AOC Auditorium** on Tuesday, April 4, at 11 a.m., / **VLA site Cafe. Bldg.**, on Thursday, April 6, at 3 p.m. All employees invited to attend one of these talks.

Jim Ulvestad

PAPER CHASE

Prevention is the best medicine when it comes to accidents. However, if an on-the-job accident occurs, it is important to follow proper procedures so that an employee maintains his/her rights under the Workers' Compensation Laws and NRAO stays compliant. Please read the Workman's Comp. poster kept on bulletin boards reserved for Personnel information. Forms

for reporting accidents are attached to the poster. If an accident occurs: a) Employee should receive appropriate medical attention. For a minor injury, the employee should be directed to Socorro Medical Associates or see a site EMT. If injury is severe, the employee should be transported to the hospital emergency room or wherever most appropriate (e.g., air evacuation). b) Immediately notify T. McBride, A. Lewis or S. Lagoyda of injuries requiring outside medical attention. They will notify the provider and fax authorization to treat the employee. c) An NRAO Accident/Incident Report must be completed for any accident immediately by the employee or supervisor and sent to the Safety Officer for review, investigation and recommendations. d) If an employee has an accident (whether or not they think they are injured and need medical attention), he/she must complete a NOTICE OF ACCIDENT form within 15 days of accident. Supervisors are responsible for making sure this happens. Employee and supervisor must sign the form, send original to Personnel and a copy for employee. This is the only signed document that actually comes directly from the employee and protects their right to Workers' Comp benefits (if needed). [Note] For proper billing, always inform the medical provider or pharmacy, when it is a Workers' Comp. charge. Prescription medications resulting from a work related accident, are only accepted at Big Value Pharmacy. (Furr's does not accept Worker Comp. claims). The employee should NOT use the RxPrime Insurance Prescription card for Workers' Comp Charges.

Gene Cole

E-MAIL ALIAS An E-mail alias has been established for the Electron Division, <nmelecdiv>. This captures addresses in a file maintained by C. Janes, which includes all Division personnel with e-mail addresses. For logins outside NM, it is necessary to use nmelecdiv@z1a.aoc.edu

Clint Janes

NRAO ADVANTAGE TRAVEL TIPS

Are you aware that using the NRAO Diners Club credit card has advantages that benefit both the traveler and NRAO? Employees required to travel on NRAO business are encouraged to use the card for airline tickets, rental cars, hotels, restaurants, shuttles, and even cash advances. Using the card for these expenses provides \$350,000 travel accident insurance coverage, \$1,250 excess baggage insurance, full value rental car collision/loss damage insurance. ATM charges for cash advances are also a reimbursable expense. Using the card saves NRAO funds and administrative effort. The card costs the employee nothing as long as you stay current on your payment. NRAO reimburses the traveler directly for NRAO travel expenses. For additional information, contact the Business Manager.

Skip Lagoyda

THE HAM RADIO CONNECTION

By Paul Harden, NA5N

In the movie *Contact*, filmed at the VLA, astronomer Ellie Arroway was shown at her ham radio station calling "CQ, CQ. This is W9GFO calling." CQ is ham lingo for "calling anyone." Perhaps more interesting is the story behind the call letters used.

In Carl Sagan's book *Contact*, Ellie's calls were actually W9GFZ, but the director of the movie did not like the "Z" or "Zed" sound of the last letter in the call, so arbitrarily modified it, feeling W9GFO was more "pleasing." Also, Ellie's activity with ham radio was using Morse code, not voice. According to the book, it was her early experience in "copying" Morse code that allowed Ellie, years later, to recognize the strange cadence of the radio astronomy signals to have a logical sequence, like Morse code. This clever approach used by Sagan explains why Ellie was able to identify the signals as having an intelligent origin when other astronomers hearing it, could not. Unfortunately, this explanation for Ellie's success was lost in the movie version when the director felt it was better to show young Ellie talking into a microphone, rather than using a Morse code key.

Carl Sagan was not a ham. However, when developing Ellie's Morse code connection for the story, he contacted a friend of his who was a ham. That friend was antenna pioneer, Grote Reber. Grote is credited with building the world's first dish antenna (in his back yard in Wheaton, Illinois) and was the first to make a contoured radio map of our galaxy just a few years after Jansky's famous discovery of "radio signals from space" in 1932. Dish antennas, of course, remain the dominant types used for radio astronomy (although it is doubtful Grote ever pictured "his antenna" being built on the scale of the VLA, VLBA or GBT)! As a tribute to Grote's help with the *Contact* story, and his contribution to astronomy, Sagan used Grote Reber's call, W9GFZ, as Ellie's call in the book version of *Contact*.

Grote Reber is still alive, living in Tasmania. With his permission, W9GFZ was recently reassigned by the FCC to the **NRAO Amateur Radio Club**, thanks to the efforts of NRAO/NM Public Education Officer, Dave Finley, N1IRZ. This was done as a continuing tribute to Reber's early work in radio astronomy. W9GFZ can be used by hams at any of the NRAO sites for special event operations. Reber's original 1928 license and QSL card are displayed on the wall outside Dave's office.