ALMA Site Development

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In the remote Atacama Desert, some 30 km South of the budding tourist hub of San Pedro de Atacama, the next giant leap for the world's astronomical community is under way. Nestled at approximately 2 900 metres above sea level amid the rolling foothills of the Andean Plateau the facility for the OSF (Operation Support Facility) base camp is complete, and we are overseeing the initial earthwork for the Technical Area Buildings.

Overlooking the vast expanse of the Salar de Atacama salt flats, the ALMA offices, dormitories and dining hall are an appropriate reflection of the efficiency and resilience of the surrounding desert life. Fully equipped with all the amenities such as modern communication systems, high-speed internet and e-mail, satellite TV, ecological waste water treatment, heating and air conditioning systems and excellent catering services, the camp is a self-contained kernel of the 21st century amid the harsh desert terrain.

A cheerful and fastidious staff maintain the more than comfortable dormitories, prepare three meals daily with surprising variety, and enjoy an occasional barbecue at the camp's very own outdoor barbecue hut.

Throughout the day, there are the sounds of crews hard at work excavating, crushing and filling and leveling the desert's soil to create the foundation base of the OSF Technical buildings. As the sun sets, impenetrable silence shrouds the camp under a blanket of the most magnificent starry display only the Atacama can offer. In the middle of this splendid scenery, the development of the site for the ALMA project has been carried out since its beginnings in respectful concordance with the Chilean environmental law and with the firm priority of maintaining friendly relations with the local communities of San Pedro and Toconao, our neighbours.

This true commitment to environmental and cultural preservation is clear as one explores the access road branching from the Chilean Highway 23 that climbs toward the camp. The road meanders its way past fields of cacti, some over 300 years old and reaching over 5 metres in height, historical sites of primitive hunter-gatherers, vicuñas, llamas and other wild life. The surrounding mountains (reaching as high as 6 000 metres) include active, dormant and extinct volcanoes.

Equipped with supplemental oxygen and two-way radio contact staff and visitors negotiate their way along some 28 km of gravel road below rounded peaks peppered with abandoned sulfur mines to the foot of Cerro Chajnantor. Here we find the site of the APEX and the Japan ASTE radio telescopes and within the location of the ALMA project, a marked field where 64 radio telescopes will come together to form the world's largest radio telescope array.

Back at the OSF, there are no overhead lines disturbing the views to earth and sky as all technical installations are kept underground. Waste water and effluents are treated biologically and with the use of state-of-the-art treatment facilities. Each day the cleaning staff removes the dust of the ever-encroaching desert from inside and outside the habitat of the staff. Visitors are impressed by the community spirit as passers by greet them with warmth and friendliness. When all come together in the dining room at meal times, there is the true sense of everyone working as an enthusiastic team.

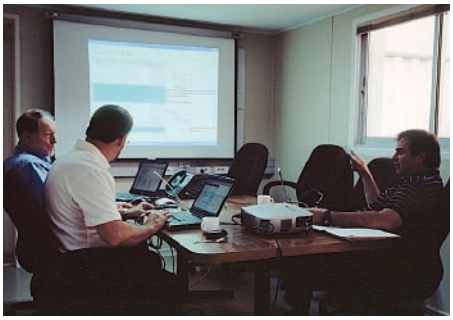
To find an international group of European, North American, Japanese and Chilean professionals and workers collaborating on the project, is truly inspiring.

Although much of the ALMA Camp construction is finished, 15 new dormitories will soon be added. The office building will be fitted with a number of cubicle-style office spaces, a recreational facility will be constructed, and the dining room will be extended to welcome and accommodate incoming European, North American, Japanese and Chilean staff.

The construction of the permanent Technical Facilities and the completion of the Contractors Camp at the OSF are currently being tendered. Construction start is scheduled for January 2006 and September 2005 respectively.

Construction of the foundation and superstructure of the Technical Building at the Chajnantor site at an elevation of approximately 5 000 metres above sea level is scheduled to start in September–October 2005 and the rough finish of the access road will be completed by the end of this year.

Photos: H. H. Heyer, ESO (4)



Above: Work at the Operational Support Facility (OSF).

Right: The APEX telescope at Chajnantor.