

# ESO's Early History, 1953–1975

## V. Earliest Developments in Chile; 24 March 1966: The Road on La Silla Dedicated\*

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*"If we look around here, we see what has been achieved in the short period of a little more than one year. — — an oasis in the desert."*  
From the speech by the President of the ESO Council, delivered at the dedication of the road on La Silla.

#### Introduction

While – as described in the previous article – in Europe Directorate and Council established ESO's administrative basis, and the first telescopes were built or acquired under the guidance of the Instrumentation Committee, work in Chile proceeded equally energetically. Under the leadership of André Muller, since January 1, 1964 Superintendent for Chile, a great variety of tasks had to be taken up: building up staff for administration and construction, organizing office facilities, setting up temporary camps as basis for the activities on and around La Silla, learning to know the Chilean world of government and provincial authorities and of contractors, etc. A challenging but demanding assignment! For it is one thing to build up an organization in one's own country with its well-known legal structure and social traditions – but another one to do so in a foreign country with unfamiliar language, different customs and different rules.

Two important "happenings" in Chile offer themselves as reference points for the historical account. One, in March 1966, is the dedication of the road to the summit area of La Silla, the completion of which was a natural inducement for Council to have its meeting in Chile. The second one, three years later, in March 1969, is the dedication and celebration of the completion of the first stage of the constructions on La Silla, when the middle-size telescopes had become operational: these celebrations coincided with Council's second meeting in Chile. In the present article I shall follow developments leading up to the first one of these events: the period 1964–1966.

Early in 1964, when there still was the prospect of a combined AURA-ESO settlement, Muller was engaged in work on the mountain Cinchado within the AURA territory, south-west of Tololo. However, these activities were rather abruptly terminated after the working group of Heckmann, Fehrenbach, Rösch and Muller as described in article III, had explored possible sites outside the AURA domain and found La Silla. This

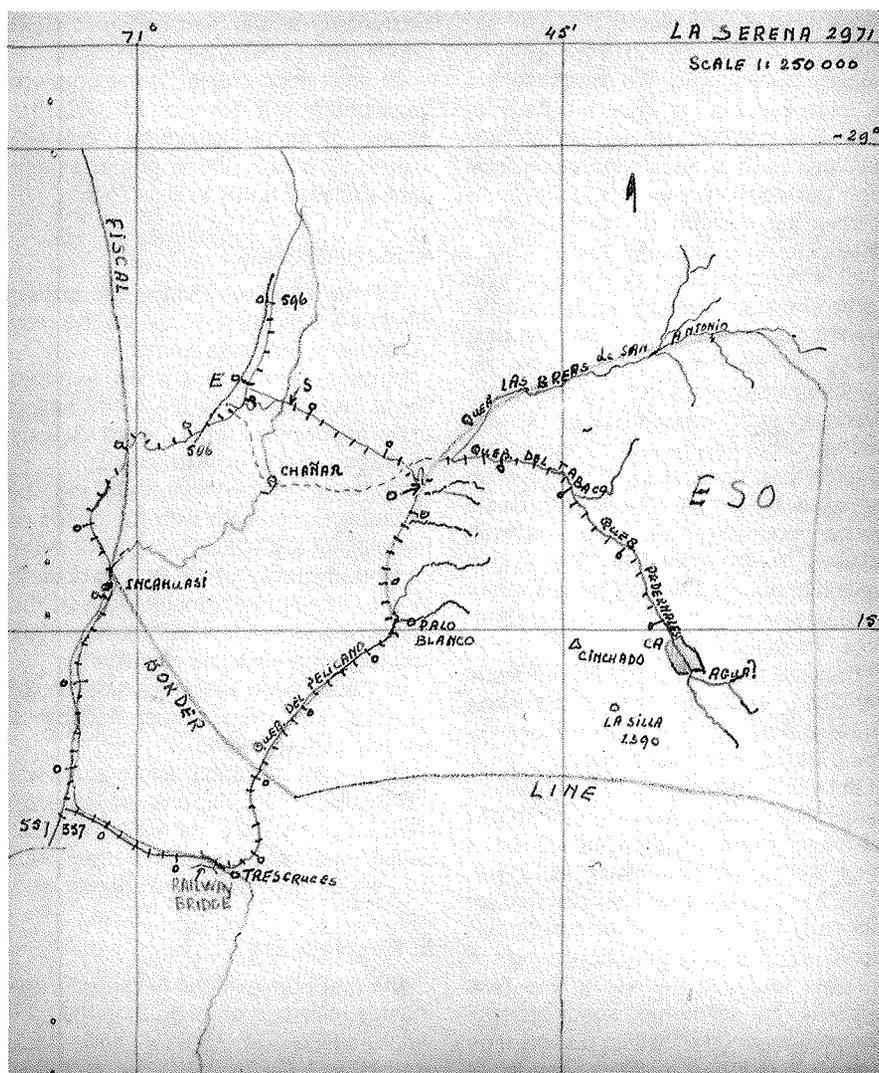
switch had been no small matter: as mentioned in the ESO Annual Report for 1964 (p. 13), the work on Cinchado had implied road construction and erection of temporary housing requiring 500 mule loads of building material to be transported to the top of Cinchado, much of which had to be brought down again . . . From then on, all effort had to be concentrated on La Silla.

Main sources for the present account are: (a) a series of three reports by Muller to the ESO Directorate, covering the period up to the middle of 1965, copies of which were sent by Muller to J.H. Oort as President of the ESO Council

[1]; (b) reports presented by the Director, Heckmann, to the Council and his letters to Oort in which he reports on his visits to Chile in March–April 1964, August and October 1964, March–April 1965, and September–October 1965 [2]; (c) the minutes of Council and FC meetings in the FHA; and (d) the Annual Reports for the years 1964 to 1966.

#### The Acquisition of the La Silla Territory

On October 30, 1964, a contract was signed in Santiago between ESO and the Government of Chile for the pur-



Map A: Reproduction – at about half the original size – of a map drawn by A.B. Muller and accompanying his report to the ESO Directorate of June 29, 1964, describing explorations to find the best access road to La Silla.

\* Previous articles in this series appeared in *Messengers* No. 54–57.

chase of an area of 627 square kilometres including the mountain La Silla [3]. It formed part of more extended Government property within which the ESO domain had been staked out as proposed by ESO with most of the boundaries following dry riverbeds (called *quebradas*); see map B. The site is situated in the border region of the provinces Coquimbo and Atacama, pertaining to the communities of Vallenar and La Higuera, respectively. The contract defines the contours of the property by means of the geographic longitude and latitude of the five points A to E marked on map B. The relatively low price ESO paid for the territory, 8000 dollar [4], reflects the interest on the part of the Chilean Government in having the Observatory established in their Country.

Preceding the transfer, such questions as the accessibility of the mountain, the possible amount of water supply, the fate of the few settlers on the territory, and the elimination of existing and potential claims for mining rights

had to be cleared. Therefore, already in the intervening months between the choice of La Silla and the conclusion of the contract, much activity took place in the area, to some of which we shall return below. Also, an unexpected obstacle was encountered when, notwithstanding the property rights of which the Government was convinced, it turned out that ownership in the southern part of ESO's area, forming part of the Estancia Chingoles, could be claimed by a private owner, the Urrizar family. In order to avoid time-consuming legal procedures, ESO came to an agreement with the Urrizar owners, buying for 6000 dollars this part of the territory once more [5] – still at a quite reasonable price. Moreover, the Urrizar family granted ESO the use of 50% of the yield of a neighbouring water source on their territory if the need might be. More particulars on this episode are given in Heckmann's account [6].

Parallel to the acquisition of the La Silla territory progressed that of the site

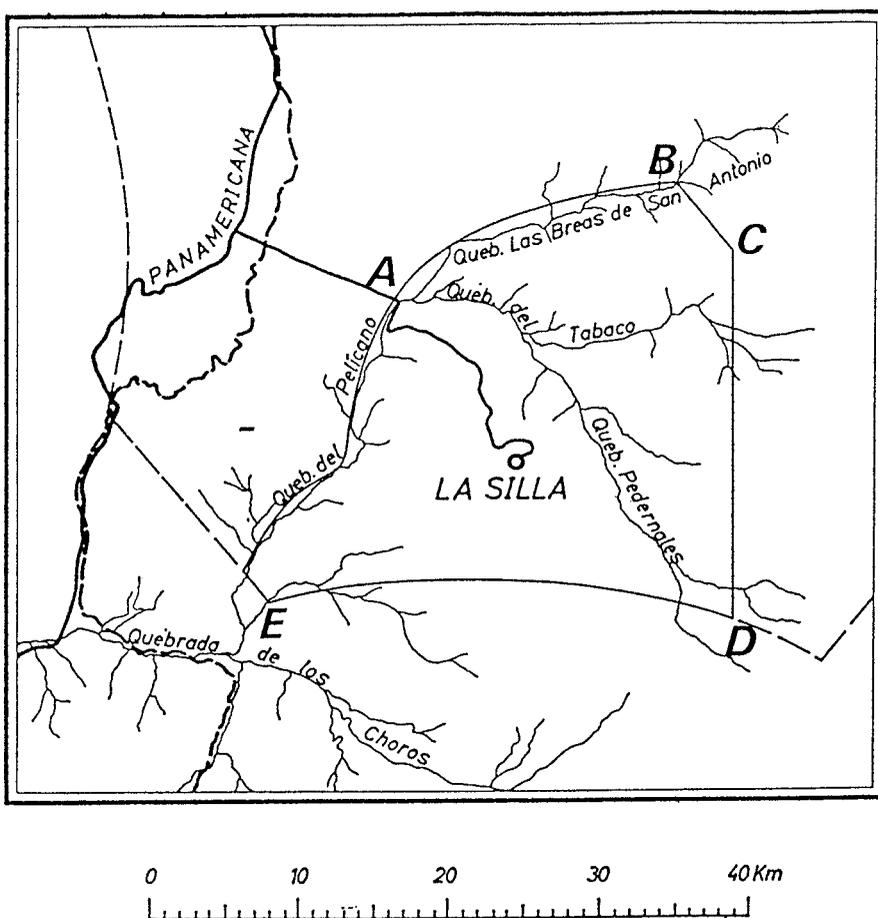
in the city of Santiago on which ESO planned to build its Headquarters, and the purchase of the Guesthouse. We shall return to the History of the Headquarters in the next article, and first follow developments around the Observatory.

### Building up the Observatory; First Step: Road and Camps

As a home base for the work on the Observatory site, ESO – like AURA – established an Office in La Serena, capital of the Province of Coquimbo, where the necessary contacts could be entertained with government services and contractors; it also was the nearest town with schooling facilities for young children of ESO staff. These latter included the Muller family who moved from Holland to La Serena in March 1964. At a distance of 480 km from Santiago, the capital of Chile, La Serena became the natural centre from where all work had to be co-ordinated. Yet, with La Serena still being 150 km distant from the summit of La Silla, construction programmes as well as the first operation of the Observatory would also require extensive provisional facilities for living quarters, construction work, storage and administration in the La Silla area itself. Therefore, camps had to be erected at its base as well as on the summit. But the very first question was, of course, how to get there!

The first one of Muller's reports, of June 29, 1964, contains a hand-drawn map of the La Silla area which we reproduce here at about half the original size (map A). It must have been based on the Government map No. 2971, copy of a relevant section of which is in EHA-I.C.3.1. which also contains contour maps of this area. Muller's map serves well to illustrate the earliest moves.

When Heckmann, in his letter to Oort of April 21, 1964 quoted in article III, wrote about Cinchado-Nord (the official name of La Silla in the mapping of the Instituto Geográfico Militar) as being the most interesting of the mountains surveyed and accessible from the Panamericana via about 35 km primitive road, he referred to a different track than what would become the present road between the Panamericana and Camp Pelicano. [N.B. André Muller informs me that the name La Silla, meaning The Saddle, was at that time already used by the carboneros (charcoal burners) in the valleys around the mountain.] The track mentioned by Heckmann branched off from the Panamericana at point 557 indicated in map A and entered Quebrada Pelicano via Tres Cruces, passing over a railway bridge as marked in the map. This bridge would have been a difficult



Map B: The ESO property as defined in the purchase contract between ESO and the Chilean Government of October 30, 1964. The boundaries are fixed by the geographic co-ordinates of the points A, B, C, D, E and the centrelines of the quebradas Pelicano and Las Breas de San Antonio.

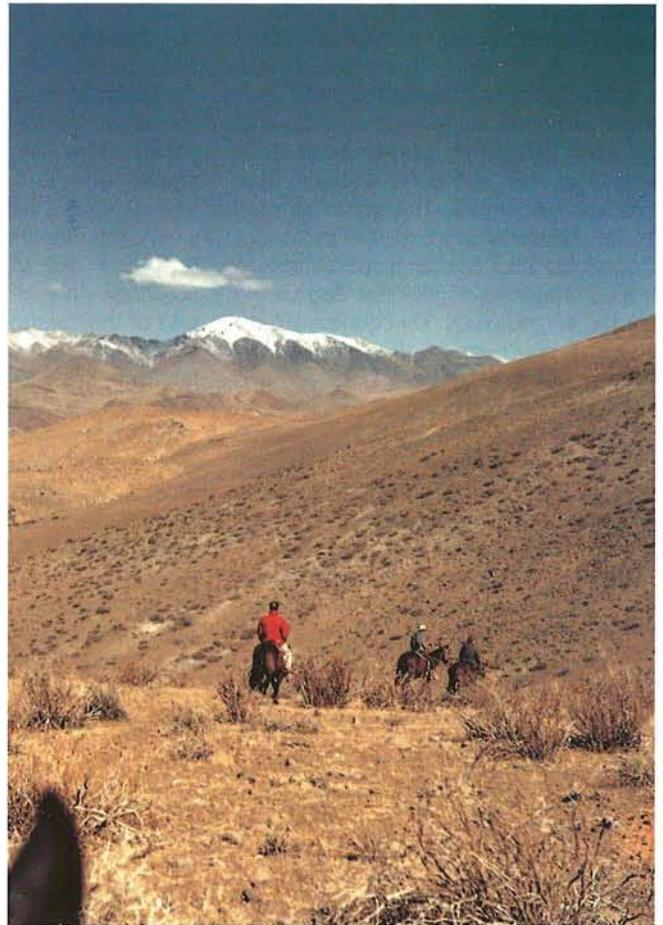
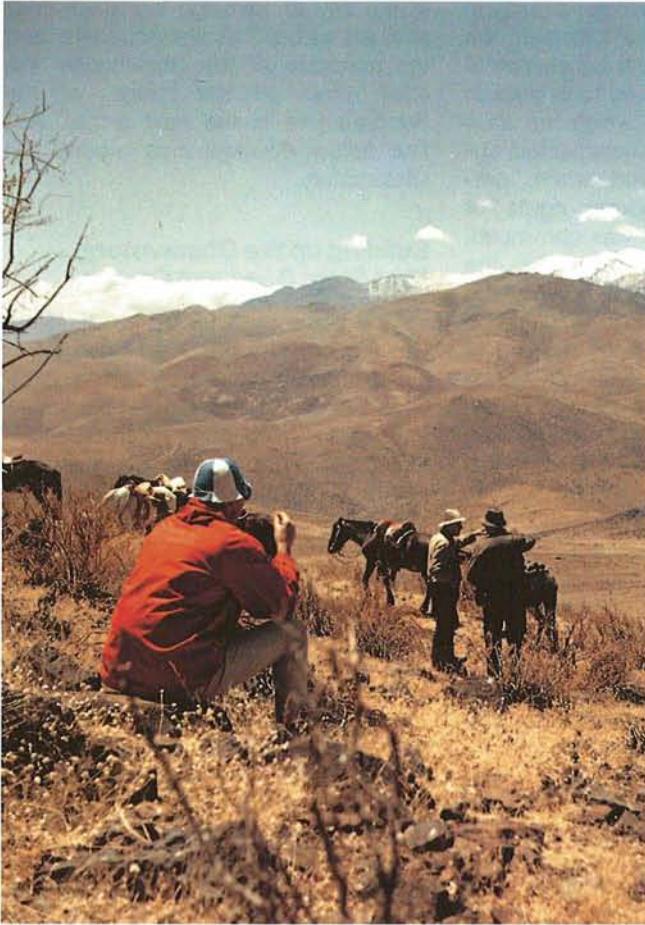
Thin drawn line: boundary of ESO property.

Thin dashed line: boundary of Government property of which the ESO territory formed part.

Heavy lines: Panamerican Highway and access road to La Silla.

Heavy dashed line: Railroad track.

Adapted from Figure 2 in ESO Annual Report 1964.



In October 1964, Ch. Fehrenbach as Chairman of the Instrumentation Committee, the architect F.W. de Vlaming and the author, together with ESO Staff, explored – still on horse-back – La Silla for planning of the location of the telescope buildings and the associated facilities. In both photographs, from left to right, de Vlaming, André Muller and Otto Heckmann. Photographs by the author.

obstacle for future transport. However, Muller's first report states: "There does exist a much better possibility. A reasonably good track was found by Muller during his investigation of the area Chañar on the 18th and 25th of June. On the 18th the road to Chañar was found, but the track indicated on the map from Chañar to O does not exist. On airphotographs a road was found from the Panamerican Highway to O and this track was recognized by him while flying on the 24th from Copiapo to La Serena. On the 25th a successful attempt was made to get to point O and also to CA in the Quebrada Pedernales. --- the first time it was a bit difficult to get from the new road to the track EO, but later three different tracks were found from the new road to the access road to O. --- It is clear that the road to Pedernales and later to La Silla will run over the points E to O. To get from O to the top of La Silla, ESO will have to construct a road of more or less 40 km length. ---" As visitors of La Silla arriving from the Panamerican Highway nowadays will note, their path to Camp Pelicano leads along the, formerly very primitive, track EO.

Whereas Muller's last remark refers to the definitive road to the top, a provisional one was a first requirement for the construction work. Also immediately required was a source of water, even if it were to be used only temporarily. One source was located with the help of the geologist O. Castello of the Instituto de Investigaciones Geológicas in the area marked CA on the map. Simultaneously, exploration in the La Silla area for finding the most suitable track for approaching the top was carried out by F. Unz, the collaborator of Siedentopf who had carried out atmospheric turbulence measures at Zeekoegat and subsequently did similar work on Cerro Tololo; he recommended to approach the top from the same area, i.e. from CA. Thus, originally it was planned to reach the summit area from point O along a primitive road through Quebrada del Tabaco and Quebrada Pedernalis to the area CA and from there along about 5 km of new, provisional road to the top.

This project was not carried out, however. Muller erected at the foot of the mountain, near the junction of Quebrada Pelicano and Quebrada Las Breas de San Antonio, at altitude about 1000 m,

the principal base camp for the operations: Camp Pelicano, close to the position where it still is today. From here he chose a new track that led straight into the slopes of the mountain, not using the tracks in the Quebradas at all. The definitive road, as we know it now, deviates little from this provisional one. Construction of the road in provisional form started in March 1965 and around the middle of that year it was good enough to allow heavy construction vehicles to reach the summit area. Also, the sites for the telescopes and other buildings were then levelled.

This early stage did not yet include the road to the top reserved for the 3.6-m telescope, neither the levelling of this top; the road went as far as the area around the site for the Schmidt telescope. Putting this road in definitive shape, including asphalt surfacing and widening it here and there would be a matter for the future, when no heavy traffic would spoil the surface any more. Construction works for the 3.6-m telescope were still a matter for the future... Thus, late 1965 ESO was ready for the dedication of its road, to be combined with Council's first meeting in

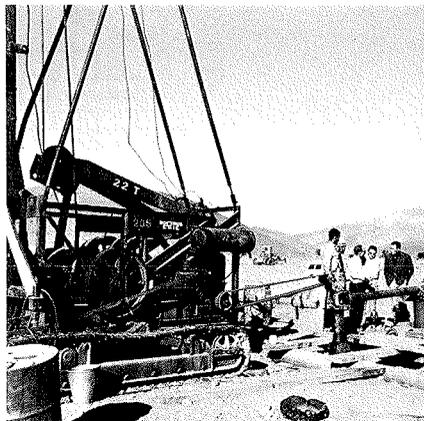
Chile. A report on the road construction on La Silla has been published by H. O. Voigt in ESO Bulletin No. 3 of February 1968. The engineer Voigt had been appointed per October 1, 1964 as Assistant Director for the construction activities. But before arriving at the dedication festivities, we must turn to other aspects of the early work.

### The Problem of the Mining Rights

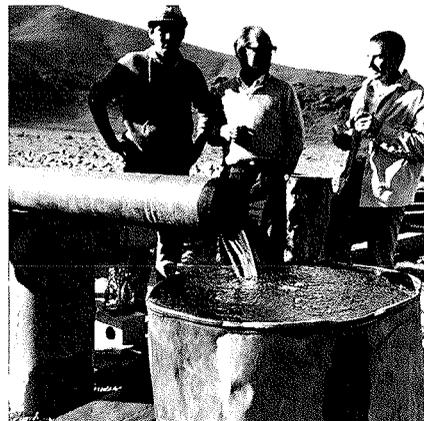
When Council decided on May 26, 1964 to choose La Silla for the Observatory, and consent on the part of the Chilean Government could be taken for granted, this did not yet imply that Muller and his collaborators could freely move and get to work on the mountain. Their work was still hampered by legal aspects connected with the elimination of existing or potential claims for mining rights. A few explanatory remarks on this subject are in order here.

In Chile, where much of the economy depends on the production of its mines, special laws protect their exploration to the effect that the owner of land like that around La Silla is not automatically also the owner of the minerals occurring below the surface: other parties may claim the right to explore mines on such territory, a right to be granted by the Government. This paramount importance of mining explains why, for example, the very first paragraph of the first article of the contract for the purchase of the La Silla territory reads: *"No mining operations shall be conducted without the authorization of the Head of State of Chile -- --."* For ESO it was – and still is – necessary to avoid mining on its territory because of the resulting disturbance of the atmosphere by dust and illumination. ESO therefore had to claim itself the right for exploration whenever it was demonstrated by another party that minerals could be found in critical parts of its domain. Claiming mining rights involves payments to the Government, and the rights thus guaranteed are of temporary nature only and must be re-obtained at repeated costs. As mining rights can be sold – for instance by prospective explorers to ESO – it is obvious that there is a strong speculative aspect against which ESO had to defend itself continually.

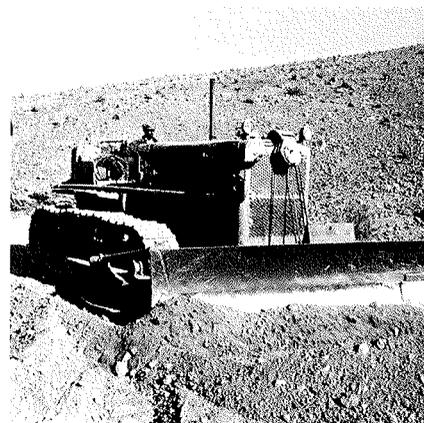
This defense has been one of the tasks of ESO's legal advisors in Chile and it was, from the outset, one of the Directorate's main worries as is evident from Heckmann's reports to Council, for instance those after his trips to Chile in August and October 1964 and March – April 1965. Early in 1964, the clearance of mining claims slowed down the activities of Muller's group on the mountain [7] because preparations for road



June 1965: First successful water drilling near Camp Pelicano.



June 1965: Road construction on La Silla.



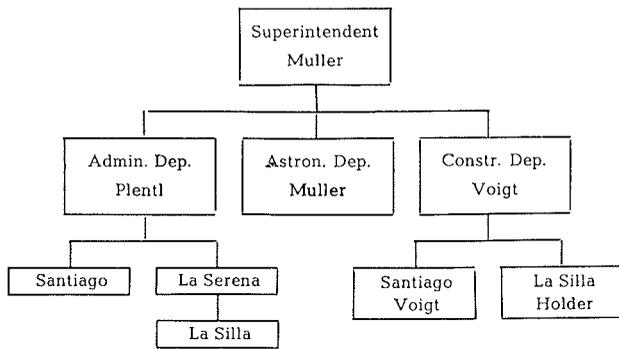
All four photographs from negatives in the ESO Historical Photographs Archives.

construction might awaken the interest of outside parties in searching for minerals in those particular areas. Characteristic is the following section of a letter by Heckmann to Oort of April 3, 1965 [8]: *"6. Wir haben mit den Minenrechten mancherlei Mühen. Das gefährlichste lag unmittelbar auf dem Gipfel von La Silla. Es war vor uns da, wurde aber, als wir kamen, in seiner Lage und Orientierung so fixiert, daß es uns sehr störte. Ich war für ein paar Tage sehr verzweifelt. Unser Minen-Advokat Urrutia hat aber vor Gericht in La Serena dieses Minenrecht mit Erfolg angefochten. -- --"*

### The Building Programme; Early Architectural Planning

Anticipating developments after the ratification of the ESO Convention (of early 1964), the ESO Committee in its meeting of February 1963 installed a Working Group for Buildings under the Chairmanship of the ESO Director. It was to draft a programme for the erection of the Observatory (domes, offices, hostels, workshops, etc. and time schedule) in accordance with the wishes of the astronomers in the ESO countries. This led to a Memorandum of

November 8, 1963 which was accepted by the ESO Committee in its meeting of November 15, 1963 and endorsed after the ratifications. At the same time, the Directorate prepared a "Short Memorandum on the ESO Building Activity" [9] dated October 7, 1963. (Note that at that time the choice of the Observatory site had not yet been made.) The memorandum was also meant for information of potential construction firms. It was proposed to realize the Observatory in two steps. The first of these, to be finished "about 1966", should cover everything associated with the installation and operation of the middle-sized telescopes described in my previous article together with the Schmidt telescope, and the second, to be finished "about 1970", should cover the realization and operation of the 3.6-m telescope and the associated facilities. The first stage was to include on La Silla such elements as the Boarding House, Workshop and technical facilities and a few residences, and the second stage, apart from the building for the large telescope, extensions required for the use of this telescope. Also included in this planning was the Headquarters Building in Santiago, correspondingly subdivided in a first and second stage.



Building up ESO in Chile: The structure of the Organization as shown in the ESO Annual Reports for 1965 (left) and 1966 (right).

As part of this planning, it was necessary to obtain architectural designs and cost estimates. ESO therefore contracted the firm of the Dutch architects F.W. de Vlaming and H. Salm who, a.o. projects, had been associated with the radioastronomical establishments in the Netherlands [10]. De Vlaming visited the building sites in October 1964 in the company of ESO staff and astronomers including Fehrenbach as President of the Instrumentation Committee and the present author, the latter particularly in connection with the housing of the 1-m telescope which was expected to soon be operational. The preliminary designs of de Vlaming have provided a first basis for the planning and the general lay-out of the Observatory, but the rather ambitious, "representative" nature of his designs have ultimately in some cases been replaced by more sober implementations.

A rather detailed description of the planning by the Working Group for Buildings and the Directorate has been published in *ESO Bulletin* No. 2 of August 1967 by J. Ramberg, at that time Assistant Director of ESO. This article also describes the status of execution by the end of 1966: the design work by the architect and his associates had been completed, consulting engineers of the construction firms had been associated with the project, and offers from construction firms were being negotiated. In many respects, the execution of the project was to become a joint European-Chilean undertaking, including a Chilean architect and Chilean firms for the constructions.

### Progress over the Years 1964–1966

The situation in the La Silla area at the end of 1964 is – too modestly! – summed up as follows in the Annual Report for 1964:

"a) Office in La Serena, functioning with five persons active.

b) Camp Pelicano, with two old houses and four new ones installed, a carpenter's workshop in use, fifteen persons active, animals' camp installed and functioning with five horses and six mules, two wells ready with one pump installed.

c) Road project [i.e. planning and layout of the road], ready from camp Pelicano to the top of La Silla."

At that moment the small group of ESO employees in Chile consisted of André Muller as Superintendent, with Hans-Emil Schuster, a former pupil of Heckmann, appointed per October 1, 1964 as Assistant-Astronomer; furthermore, there were the Camp Supervisor Hernan Carrasco and five more technical and administrative staff [11]. We also reproduce here from the ESO Annual Reports for the years 1965 and 1966 the schematic representations of the structure of the organization, exhibiting its rapid expansion after 1964.

The year 1965 saw progress of work in the La Silla area on many fronts. Apart from the major accomplishment, the road construction, Camp Pelicano began to take its more definitive shape after having served initially in provisional form. For the power supply, which had been obtained provisionally from a small portable generator brought from South Africa, a power house was erected at Camp Pelicano with a battery of generators whose output was to grow as the demand would increase. On the summit area of La Silla a small temporary camp was constructed, including storage room, some living quarters, a power house and a temporary workshop. A beginning was made with the building for the GPO telescope which would soon be transferred from South Africa to La Silla. Also, a radio connection between Camp Pelicano and the summit Camp was installed. Meteorolo-

gical observations were conducted throughout the year. They included measures of cloudiness, wind velocity, wind direction, temperature and humidity and were reported by Muller in the first issue of the *ESO Bulletin*, of November 1966. (Meteorological reports by Muller for subsequent years have been published in Bulletins Nos. 3, 4 and 7 for the years 1966, 1967 and 1968.)

For supplying the Observatory with water, a number of boreholes were drilled near Camp Pelicano in 1965 and their output was promising, but the really important question was, of course, whether the yield would remain sufficient under the continual use by the Observatory in operation. Checks in 1966 and thereafter showed that the use would not be exhaustive. As the visitor of La Silla notices, the water is transported from the level of Camp Pelicano (at about 1000 m) to the summit at about 2400 m in three steps, with two high-pressure pumps in between (at altitudes 1500 and 1950 m). The construction of the water and power supply have been described by S. Klingenberg in *ESO Bulletin* No. 3 of February 1968.

### Organizational Structure and Employees

By the time Muller and his collaborators were ready for the dedication of March 1966, the activities in Chile were grouped in three departments: an administrative one, one for constructions, and one dealing with miscellaneous tasks including meteorological observations; this latter under Muller himself together with Schuster. Much of the activity centred on La Silla and around Camp Pelicano. Engaged in Camp Pelicano had become also Albert Bosker whom we encountered earlier as one of the assistants of Muller during the site tests in South Africa. Bosker

January 1966: Aerial photographs of first stage of road construction on the summit of La Silla. South is at the top, north at the bottom. Note that the road did not yet extend to the main and secondary tops in the southern background of the left-hand photograph, now occupied by the 3.6-m telescope and the NTT. The more detailed right-hand photograph shows that the only telescope building under construction was the one for the GPO.



Joined ESO this time on more permanent basis, from February 1965, first as assistant Camp Boss, and from November 1965 as Storekeeper (Chief Bodega) at Pelicano. Under the Camp boss fell matters of board and lodging for the workers at La Silla, transport, storage, radio links, stable boys, and the animal population of horses and mules still used for patrolling the property. In the course of 1966 a second, now more definitive Camp was erected near the top of La Silla under the same supervision, for the housing and board of part of the construction workers.

The administrative department had an office in La Serena, with Arturo Cuthbert as bookkeeper, but it became more and more centred on Santiago where it was supervised per January 1, 1965 by the Assistant Administrator H. J. Straatman. From the middle of 1965 all administration was headed by R. Pleintl under Muller's supervision. The department of constructions fell under the supervision of H. O. Voigt mentioned before and the engineer R. H. G. Holder who joined ESO per May 16, 1965. Of the many other



Camp Pelicano, January 1966. At lower right, the access road from the Panamerican Highway. At left, the road leading to the summit area of La Silla. At 1/3 from top, to the right of the middle of the photograph, the earliest, provisional Camp settlement.

Photograph from negative by R. Holder in the ESO Historical Photographs Archives.

Laboratory, and from January 1, 1965 in La Serena, and Mrs. Christa Euler who became a secretary at the Santiago Office per January 1, 1966 [12]. Naturally, there were many organizational links between La Serena and Santiago and with the corresponding divisions within the Office of the Director in Hamburg-Bergedorf.

### The ESO Guesthouse

In the course of 1964, with more and more activity developing in Santiago, the need was felt for a *pied à terre* in this city, rather than always having to use hotel accommodation. A quite satisfactory solution was found by the acquisition of what has become the ESO Guesthouse, formerly belonging to the Spaarwater family. Situated in the Vitacura district, not far from the future Headquarters, with many rooms and surrounded by an attractive garden on a lot of 0.44 ha, it could easily be transformed into both offices for administration and temporary lodgings. In its meeting of December 1964 Council approved the purchase, and the transaction was concluded in March 1965. In May the Director could report that the house was being adapted to ESO's needs, and was run by the housekeeper Mrs. Carmen ("Hilde") Fritsch under the supervision of Mr. J.A. Briggs, Assistant Administrator in the Santiago office [13]. The hospitality and good care of the late Mrs. Fritsch until her retirement in the late 1970's will be gratefully remembered by many of ESO's staff members and visiting astronomers of those early years.

### Council Meeting and Dedication, March 1966

The activities described before reached a milestone with the dedication of the road on La Silla and Council's first meeting in Chile. (Also the FC met there these days.) ESO's road was an excellent achievement and worthy of a celebration indeed. Over its total length of 20 km from Camp Pelicano to the summit it has no inclination exceeding 12%, no sharp curves, and the average width at the time of completion was 5 m. Never were serious obstacles encountered by transport of heavy and large parts of equipment in the later stages of building up the Observatory. In addition to the 20 km mentioned, about 5 km of access road had been paved to the various buildings on the summit. For the connection of Camp Pelicano with the Panamerican Highway, 17 km of the existing but quite primitive road had been improved as a joint project of ESO and the Chilean Public Works Department.

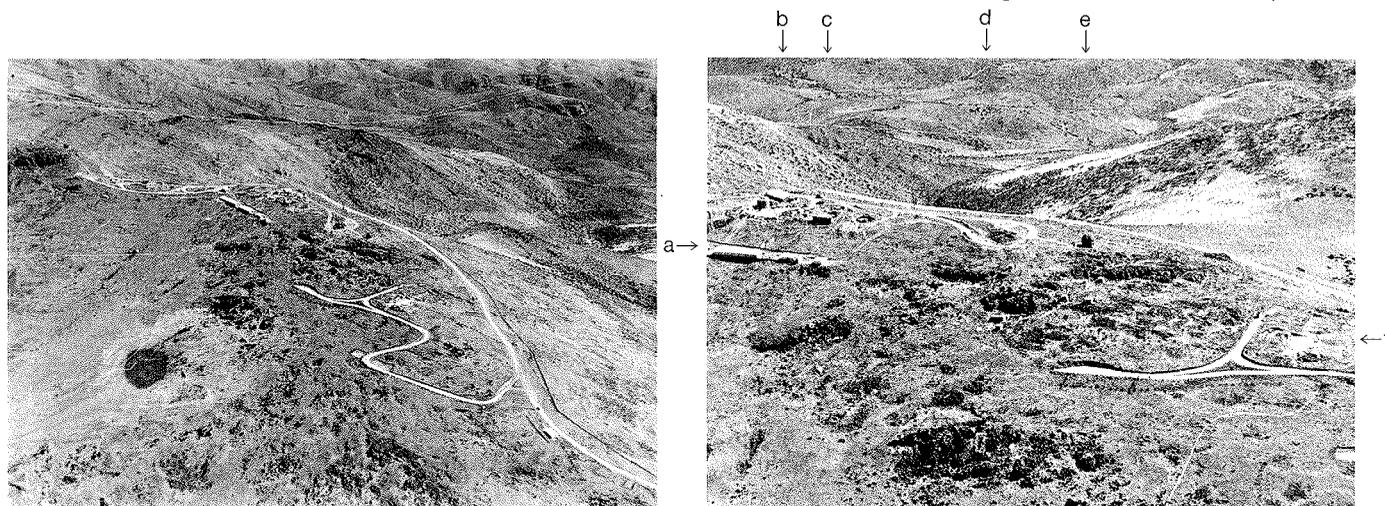
Council members arrived in Santiago on March 21 and left in the beginning of April. On March 23 they went to La Serena by bus and the next day arrived at Camp Pelicano. Here, in the morning of the 24th, the dedication ceremonies took place in the presence of many authorities and guests. They started with the benediction by the Archbishop of La Serena, after which ESO's President G.W. Funke delivered the inauguration speech in which he stressed the growing importance of Chile as a centre of astronomical activity. Funke's speech, with translation into Spanish, has been published in *ESO Bulletin* No. 3 in February 1968. Let me quote a few of Funke's words:

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*"If we look around here, we see what has been achieved in the short period of a little more than one year. Under the able leadership of Dr. A.B. Muller, Europeans and Chileans have created an oasis in the desert. --- We have to express our gratitude to every astronomer, technician and workman who cooperated in the joint effort. In particular the Chilean obrero has to be mentioned, because his readiness to work under the exceptional conditions of this area, his untired willingness to undergo the hardship --- made our work possible."*

The ceremonies were concluded with a speech by the Intendente (Governor) of the Province of Coquimbo. Subsequently, Council and visitors drove by bus and car on the newly opened road to the summit area of La Silla. Council stayed overnight in Camp Pelicano and the next day visited places on the ESO domain. They made once more the trip to the summit, but this time in the now old fashioned but more romantic way – on horse-back.

During the next days Council visited the AURA site on Cerro Tololo and a copper mine in the vicinity of La Serena, before returning by bus to Santiago on the 29th. March 30 scheduled a visit to the University of Chile's Cerro Calan Observatory and a general reception, and on March 31 and April 1 Council held in Santiago its 6th meeting. For most of the Council members it must have been their first visit to South America. Neither the minutes of the Council meeting nor the ESO Annual Report tell



### October 1966, first constructions on La Silla.

Left: Overview. Right: Close-up of the central part of the construction site.

- (a) Camp for the construction workers.
- (b) The lower part of the building for the GPO with next to it the provisional mechanical workshop.
- (c) Foundation for the 1-m telescope building.
- (d) Foundation for the 1.5-m telescope building.
- (e) The temporary dome of the 1-m telescope.
- (f) Site preparation for the Hostel.

Photographs from negatives by R. Holder in the ESO Historical Photographs Archives.



## Second Extension of ESO Headquarters

Regular visitors to the ESO Headquarters in Garching will have noticed – also in the audio domain – that a major construction has been going on since mid-August this year. The second extension to the Headquarters building was decided in order to provide much-needed room for new staff members and more visitors, in particular because of the increased influx in connection with the VLT project, now shifting into very high gear.

The architect's solution to the problem consisted in adding a fifth floor to the southernmost part of the building, executed in light steel elements. This will provide 25 additional offices with space for about 50 more desks, within a total floor area of 450 square metres. It is expected that this space will be allocated to Science Division staff members who will liberate their old habitats below, making room for staff from other Divisions.

It is planned that the construction phase will last until mid-February 1990. The picture shows the view from south-east, on November 6, 1989.

much about these events, but the relevant documents are found in the section of the ESO Historical Archives originating from Oort [14], one of the participants.

Visits to Chile of Council, of FC and of other ESO Committees always have been extremely useful for a proper evaluation of the planning and the operation of the Observatory. The minutes of this first Council meeting in Chile reveal considerable, unforeseen rediscussion of the geographic structure of the establishment in Chile, although no fresh points of view were presented. An understandable development, because the complexity of the geographic structure of the organization and the enormous effort of the ESO staff required for its realization could only now, *in situ*, be fully appreciated by Council.

### References and Notes

Note: For lists of the meetings of ESO Committee and Council see the tables in articles I and IV.

Abbreviations used:

EHA = ESO Historical Archives (see *The Messenger* of December 1988).

FHA = Files Head of Administration at ESO Headquarters.

Heckmann Sterne = O. Heckmann, *Sterne, Kosmos, Weltmodelle*, Verlag Piper and Co., München-Zürich, 1976.

- [1] EHA-I.A. 2.13.
- [2] Council Documents Chile-8, 12, 15, 16 in EHA-I.A. 2.14. and letters in EHA-I.A. 2.10.
- [3] Minutes Council Meeting 2–3 Dec. 1964 and *ESO Basic Texts* Section B.3.
- [4] Cou. Doc. Chi-12 in EHA-I.A. 2.14.
- [5] See ref. 4.
- [6] Heckmann Sterne p. 298ff.
- [7] See Muller's reports mentioned before.
- [8] In EHA-I.A. 2.10.
- [9] EHA-I.C. 3.2.
- [10] EHA-I.C. 3.8.
- [11] Annual Report 1964.
- [12] Lists of employees were at regular intervals drawn up by the Administration in Bergedorf for the FC. For instance, they are found in doc. FC 32a and 32b for the situation per April 1, 1965 and in doc. FC 92 per Oct. 1, 1966; these documents are part of the FHA.

[13] Cou. Doc. Chi-15 in EHA-I.A. 2.14; for preparatory work also Cou. Doc. Chi-9, 10 and 11.

[14] EHA-I.A. 2.15.

## The R Corona Australis Cloud

The southern constellation Corona Australis contains this fine molecular cloud, known as the R CrA cloud after a young variable star, which is surrounded by a reflection nebula in the northern part of the cloud. It appears that the cloud has been perturbed by an outside event from the north-west, perhaps a supernova explosion. Low mass star formation is actually taking place in the cloud: many T Tauri stars and several Herbig-Haro objects are found there and a cluster of embedded infrared sources is located in the north-western front of the cloud. The globular cluster to the right is NGC 6723. There are also several minor planet trails in the field. From a 150-min ESO Schmidt plate (IIIa-F + RG630), obtained by G. Pizarro and H.-E. Schuster; text by B. Reipurth, photographic work by C. Madsen. ▶