Overseas DSIF 64-m Antenna Project Status

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The status of construction of two 64-m-diameter steerable paraboloid tracking antennas being installed near Canberra, Australia and Madrid, Spain is presented for the January/February 1971 reporting period. The antennas are being constructed by the Collins Radio Company, Dallas, Texas, under JPL contract.

I. Introduction

Two existing 26-m-diameter antenna stations at overseas locations are being upgraded to 64-m antenna stations. This effort includes the construction of two 64-m antenna instruments and requisite support facilities. (See Refs. 1 and 2 for earlier reports on the upgrading effort.)

A fixed-price contract was effected with the Collins Radio Company, Dallas, Texas, on August 14, 1969. The contractual period for construction of the Spanish antenna is 40 mo and that for the Australian instrument is 31 mo. The contract is presently in its eighteenth month.

Figure 1 shows a cross section of the 64-m antenna and identifies the major components. Figure 2 lists the subcontractors to the Collins Radio Company who are responsible for the fabrication of these components and gives the status of the components through the January/February reporting period.

II. Construction at Australian Site

As a structural support element, the Australian antenna pedestal (Fig. 3) is essentially complete. However, the architectural and engineering portions of the pedestal interior and placement of facility equipment within the pedestal have yet to be completed.

Atop the pedestal, the azimuth radial bearing runner and the azimuth bull gear have been installed and the hydrostatic thrust bearing runner has been positioned in

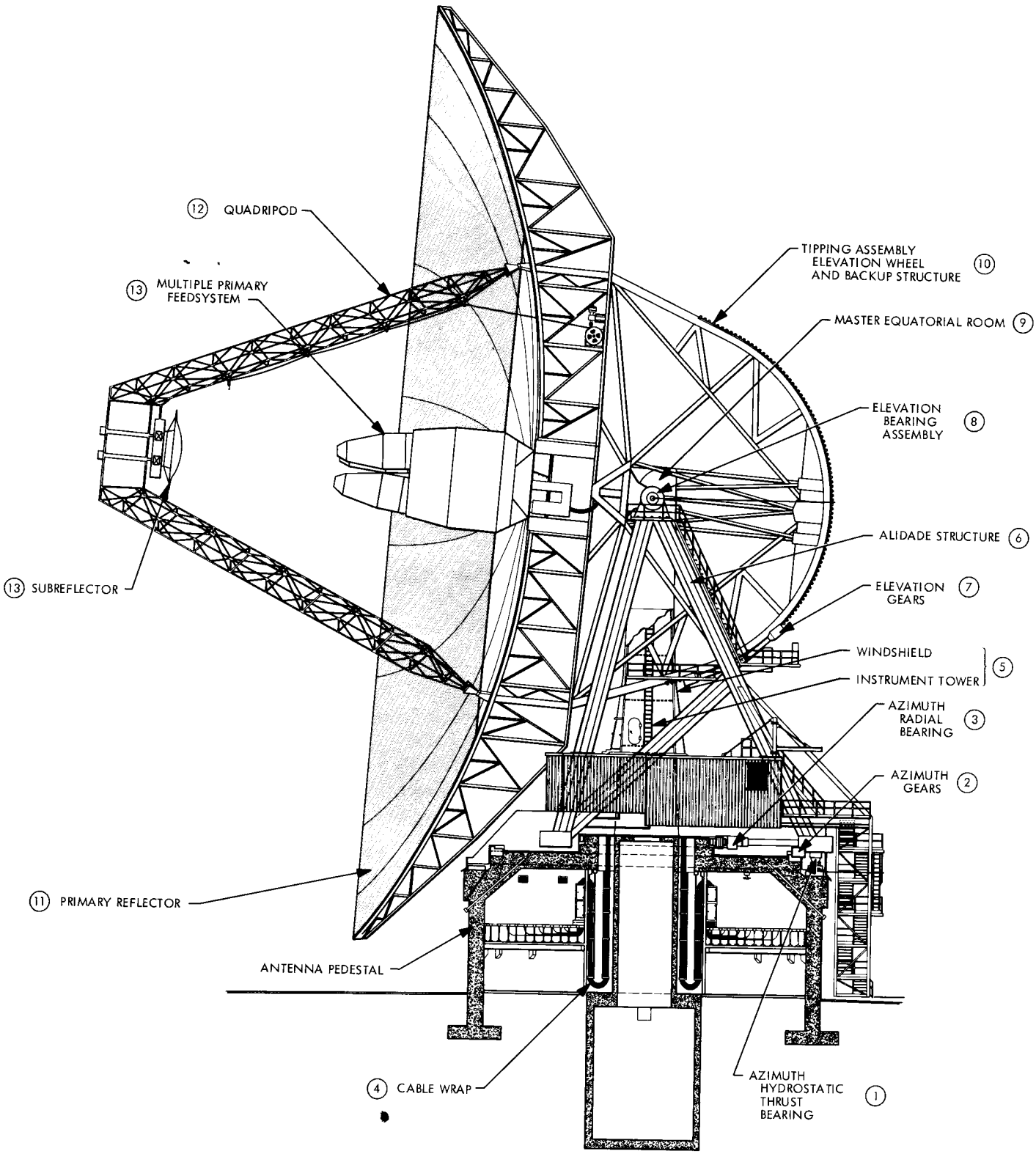

Fig. 1. Cross section of antenna

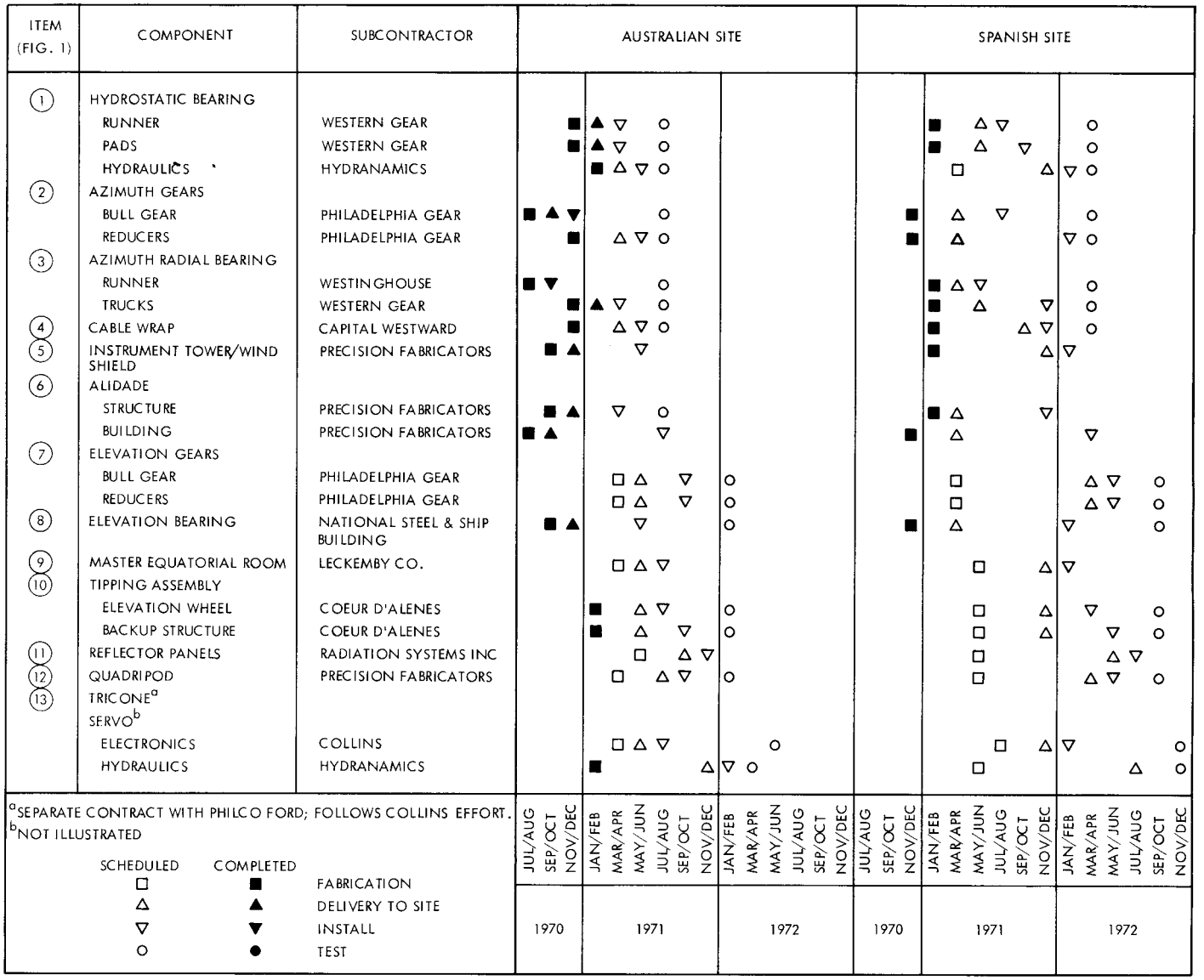

Fig. 2. Major components and status of antenna

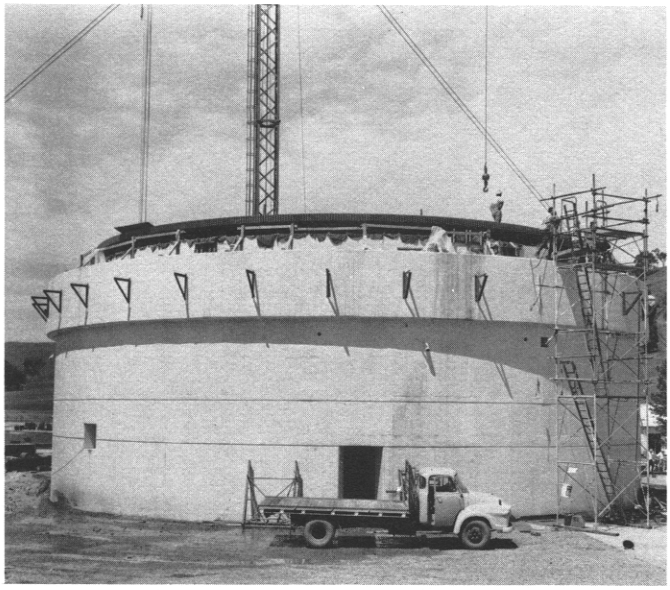

Fig. 3. Antenna pedestal at Australian site

preparation for final alignment and grouting. The remainder of the runner sole plates, the last items required for completion of installation of this critical path element, was received at the site on February 16. Grouting is expected to begin near the end of this reporting period. During the next reporting period, the hydrostatic bearing runner grouting will be completed and erection of the alidade structure will begin.

III. Construction at Spanish Site

Construction at the Spanish site began on June 22, 1970. Figure 4 shows the status of the pedestal construction. Lift number 8 was completed on February 10, 1971.

Figure 5 shows an overall view of the construction site. During excavation, granite outcroppings were encountered which required considerable blasting and slowed progress. The site construction, however, is well ahead of schedule.

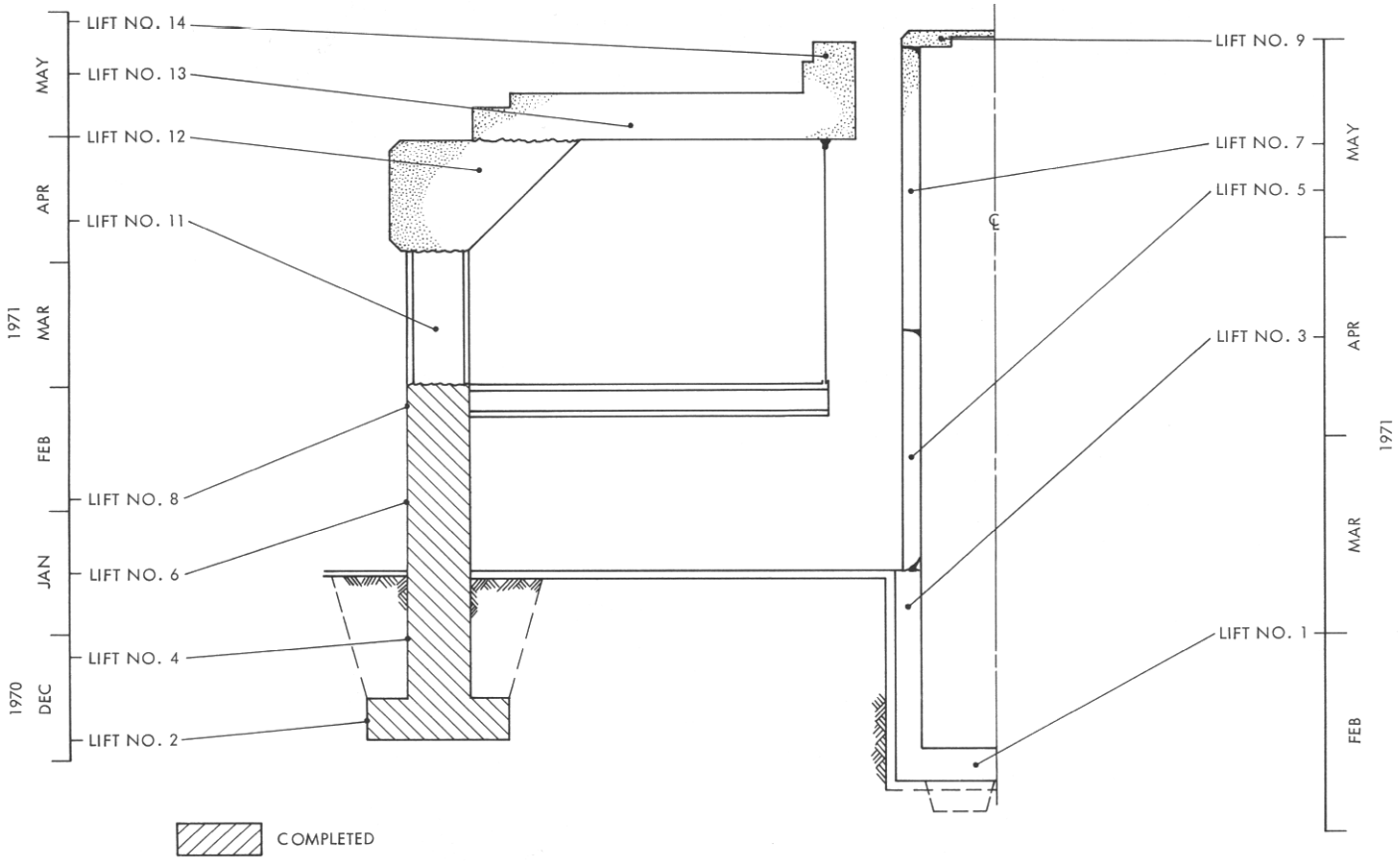

Fig. 4. Status of pedestal construction at Spanish site

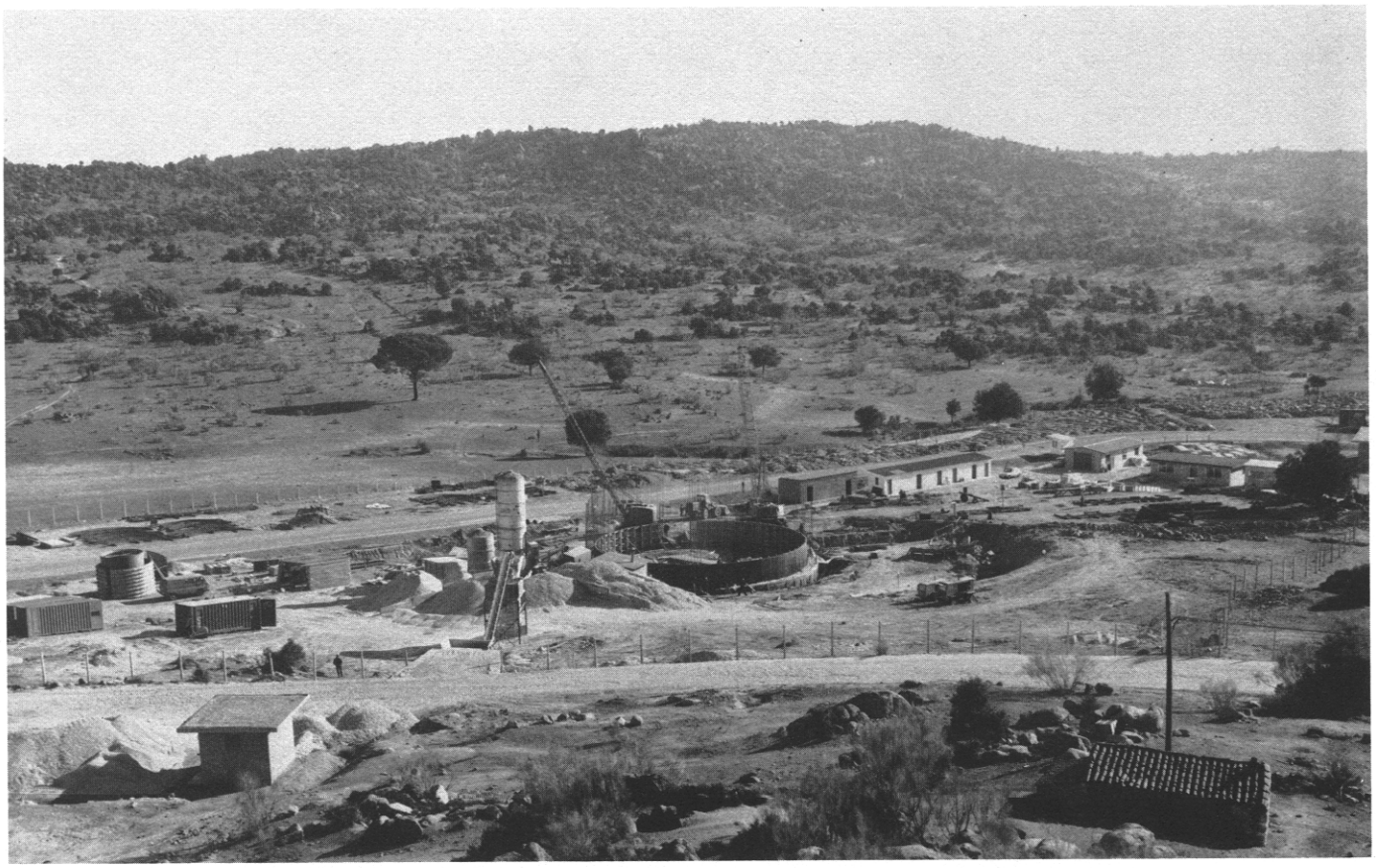

Fig. 5. View of Spanish construction site

References

1. Casperson, R. D., and Lord, W. W., "Overseas 210-ft-diam Antenna Project," in *The Deep Space Network*, Space Programs Summary 37-65, Vol. II, pp. 154–158. Jet Propulsion Laboratory, Pasadena, Calif., Sept. 30, 1970.

2. Casperson, R., Kroll, G., and Kushner, L., "DSS 61/63 Facility Modifications and Construction," in *The Deep Space Network*, Space Programs Summary 37-66, Vol. II, pp. 154–158. Jet Propulsion Laboratory, Pasadena, Calif., Nov. 30, 1970.

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