

Post Office Box 6788
Fort Davis Station
Washington, D. C. 20020

Attention:
Subject:
Reference:

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Gentlemen:

is pleased to enclose five copies each of our 3rd and 4th Monthly Progress Report for the design and fabrication of a Variable Anamorphic Viewing System. The reporting periods covered are February 1, 1966 to March 1, 1966 and March 1, 1966 to April 1, 1966.

Total funds expended to date represent approximately 35% of total allocated contract funds. If you have any questions concerning this project, please contact the writer directly.

Very truly yours,

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Contract Administration
Photogrammetric Contracts Section

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declassification

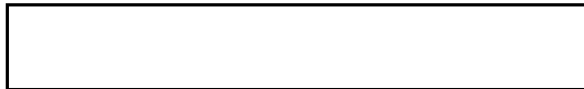
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Third Monthly Progress Report

Design and Fabrication of Variable
Anamorphic Viewing System

Period February 1, 1966 to March 1, 1966



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During this period the problem of correcting the chromatic aberration of the prism system throughout the zoom range has been solved. The correction of this aberration at the edge of the field is marginal, and may prove unacceptable in the final unit. If this is true, the field will be reduced until the chromatic aberration is acceptable. The design data clearly indicates that imagery will be satisfactory at 85% of full field. Thus, any reduction in field size will be within the limit specified in the work statement.

Because of the lack of power in the prisms it has been possible up to now to design the system without considering in detail the prism pivot points, and the transverse position of prism relative to the center line of the system. With the chromatic aberration problem resolved it is now possible to work on these detailed problems. This requires working back and forth between the drafting board to assure freedom from mechanical interference, and the computer to establish that there is no vignetting or image translation with zoom. So far no analytical solution to this problem has been found, and the iterative trial and error technique that is being used is converging slowly. The mechanical design group has been notified that the optical design is nearly completed. They are providing guidance in the final design process to assure compatibility of the optical

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design with mechanical requirements. Thus, there should be no serious problems during the mechanical design of the unit.

The design effort on the cylindrical zoom system is being continued. It is considered advisable to carry this alternate zoom system to design completion as a back up system should the prism system develop insurmountable problems at any stage of development. At present a lens power distribution and motion to give a zoom system fitting the required space has been determined. Following conventional design procedures the individual components are being corrected for aberrations. After this correction the complete system will be designed.