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PAR 211

8 Sept 64

SUBJECT: Microdensitometer Study of Effects of Processing

TASK/PROBLEM

1. Collect and study microdensitometric data from mission materials in an attempt to determine the effect of film emulsions, processing, and printing on the characteristics of image edges. Also, attempt to determine true location of image edges for mensuration purposes.

DISCUSSION

2. A meeting was held at [Redacted] to discuss the progress on this project to date, and the direction of future effort. He suggested the inclusion of low contrast resolving power and modulation transfer measurements in the data collected on the effect of processing on edges.

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3. A second meeting was held in Washington with Messrs. [Redacted] concerning the nature of the mensuration problem on which they would like assistance. This is basically the problem of dimensioning small objects in the aerial photograph, in which the objects are not much larger than the ground resolution of the system. Effort is needed to find a technique which will give the actual edge location in the presence of image degrading factors such as smearing of the image due to light spreading in the emulsion, uncompensated image motion, and lens aberrations.

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4. Data are being collected on the modulation transfer function, granularity, acuteness, and resolving power of Types 4400, 4401, and 4404 films processed by standard Trenton techniques and in specially formulated developers designed to give reduced granularity or increased sharpness.

PLANNED ACTIVITIES

5. During the next quarter, the study of the effects of processing developer formula variations on film image structure characteristics will be continued.

6. Work will be started on the mensurational aspects of this project.

7. No work will be started on Phases 2b and 2c of this PAR until further discussions are held with These phases involve the use of trained photointerpreters to evaluate the quality of aerial exposures having special processing. Test objects must be included in the scene and the nature of these test objects is the subject of the discussion.

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