Photogrammetric Brief

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Polaroid Color Film for P.I.

THE DEVELOPMENT AND RESOURCES Transportation Co. has, for the past 18 months, been using Ektachrome and Ektachrome Infrared aerial photography as a tool for describing various types of jungle vegetation in South America for the purpose of predicting costs of large scale agricultural land-clearing projects. This work has involved obtaining a considerable amount of botanical ground truth data and investigating various vegetational features first observed in the aerial coverage.

Both of the above aspects of our work have greatly benefited from the use of Polaroid 4×5-inch color film (Polacolor 58) with its ability to produce an acceptable color print in 60 seconds.

Perhaps the most novel use to which we have put the Polaroid color film is in the production of stereo pairs for field use. Using the 4×5 size film *packets* and the Polaroid 4×5 Land Film Holder #500, we tried both photographing desired sections of the transparencies by means of transmitted light from the light table, and by projecting an image of the transparency from the enlarger onto the uncovered Polaroid film placed on the easel. The latter method has proved most successful.

The entire light table, a portable model with rewinds, is placed on the enlarger easel. The film, emulsion side up, is placed on the rewinds with a loop which passes through the negative carrier of the enlarger. If care is taken, the film will not be scratched, and although the whole system looks unwieldy, it actually is quite easy to pick out the desired frame for projection and center it in the negative holder. We have used a 4×5 Omega D-2V for this work. Because, in general, we have only been interested in a small portion of each 9×9-inch frame for our field prints, the 4×5-inch format is not a limiting factor.

In general, each flight line will require some variation in the filter pack, but a good basic pack includes a CP 40M, CP 40C, CP 20C and a CP 20Y gelatin filter between the light source (#211 enlarging lamp) and the transparency, and an 82A filter over the lens. The film holder is mounted on a heavy block, at least three inches thick, so that the *Load-Process* lever can swing easily without contacting the easel. In practice, a white card, the shape of the film sheet, is inserted in the mounted film holder. The desired image is focussed on this card and then the card is replaced by the film packet.

The packet is opened only in total darkness. A typical exposure is about 4 seconds at *f*/11. Standard dodging techniques are applicable and often are necessary to compensate for the relatively narrow latitude of the film. The finished prints, with minor trimming, are immediately available for field use in a size convenient for viewing with a pocket stereoscope.

Once out in the field, the same Polaroid adapter is used with a Linhof Technica 4×5 press camera to assist collecting botanical ground truth data. The photographs are annotated immediately after being processed. The photograph is then taped into the field book. The added dimension of color, even with the known shortcoming of the Polaroid film, has been exceptionally valuable when collecting botanical intelligence, both for ground truth studies as well as for preparing "instant" stereo pairs in color.

* Submitted under the title, "Some Applications of Polaroid 4×5 Color Film in Photo Interpretation." Mr. LeSchack is President of the firm.