9 August 1955

MEMORANDUM TO: A. C. LUNDAHL

Chief D/GP

SUBJECT : Trip to Eastman Kodak, Rochester, New York

1. A meeting was held on <u>21 July 1955 at the Kodak Camera Works</u> in Rochester, New York. The session lasted from 1000 to 1630, and the participants were

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2. The following material covers the conclusions or problems that evolved from the discussions, and are generally presented in the same order as the previously prepared list of questions.

3. General

- a. It was agreed that shipments should be frequent to expedite use of the material, to avoid storage problems in Rochester, and to avoid the handling of large quantities of material. It was suggested that couriers delivering incoming film to Eastman Kodak, would proceed to deliver the finished material to Washington. This was not considered practical, as any extended interval between missions would cause a similar delay in receipt of material at the Unit. Couriers should be available for delivering material immediately upon completion of processing.
- b. The Eastman Kodak people received a sample aluminum spool for the aerial film and feel it is too delicate. It was suggested that aluminum might possibly be replaced by some other light weight material such as titanium.
- c. No information was available on the Horizon (Sun) camera.
- e. Eastman Kodak said they would be glad to aid in solving film storage problems.
- f. Eastman Kodak has just been notified that frame numbers will be indicated by counters, which differs from previously considered method. As presently understood this would mean each frame would then show only the frame number and time. It is believed that additional information should be placed

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- 2 -

on each negative, either during exposure, or during the processing period. The presence of the mission data on the leader will be of little value after the prints are cut, and should a print become misplaced it becomes a difficult problem to replace it in it's correct position.



g. The general indication from conversation was an expectancy for resolution of about 50 lines per mm.

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4. Equipment

- a. There appeared to be some misconceptions as to the mode of operation of the Charting camera. Eastman Kodak representatives stated that they thought the film moved in the line of flight, providing a continuous strip with no stereo overlap, and consequently compressing the distance from horizon to horizon into $2\frac{1}{2}$ inches. Upon returning to Washington and checking the files, information was obtained from TS 103220, 14 January '55, page 4, that film will move transverse to the line of flight, with 60% overlap, thus providing stereo coverage. Such being the case, it is still required that a high power stereoscope and/or an enlarging device be available for testing and field operations.
- b. Eastman Kodak concurred in providing cellophane envelopes for individual original negatives. The thickness of such envelopes containing the negative would be approximately 6 mils. They have been considering the problem of titling the envelope and would like to know our requirements.
- c. <u>Cardboard boxes for the film will provide no difficulty</u>. They recommend storing the negatives horizontally due to the lack of rigidity in the thin base film. This is sound and in conjunction with the increase in number of negatives that may be stored per foot, will require a reevaluation of type and number of storage racks required.
- d. Boxes or folders for original prints will be easily available.
- e. No information was available on rectifying printers for the A, B and C configuration cameras.



f. The present contract with Eastman Kodak calls for three processing and three printing units for field use. There is no indication of a processing or printing unit for use in the early test phases. This point should be given consideration.

It is understood that the majority of test film will be processed in Rochester, providing classification is not too high.

Film

- a. We will receive all film and make any additional distribution.
- b. Eastman Kodak will provide duplicate positives and negatives in any manner desired, such as 100 foot rolls.
- c. Duplicate material for cameras using 2 rolls simultaneously will be furnished in similar fashion. It is understood that the film in these cameras will be slightly separated. This will reduce its value for photogrammetric purposes.
- It has not been determined whether the double layer emulsion film will be used or not. Should it be used, it will probably be necessary to rehaloganize the film in the field if prints are desired. The normal original processing will generally not provide a negative which will produce prints of good enough quality for any appreciable field use. No plans had been made, should normal film be used, to do any other processing besides the preparation of required duplicate material.

was very emphatic in stating a desire that at least one, and preferably more, photo interpreters be assigned to Rochester on a permanent basis. He feels that qualified personnel should be available to make any required decisions during the processing stages. The presence of a qualified interpreter could possibly prevent the duplication of large quantities of material, for example, where small areas of coverage occurring on scattered prints could be quickly studied to see if the locality could be identified and would provide any information if retained. Since there will be numerous runs with multiple duplication of each, the discarding of all non usable material at the early stages will prevent wasted film, time, storage space, and handling of the stated that the individual or individuals 50X1 material. could either be assigned to Kodak on a temporary duty basis or to their payroll, but retaining only direct obligation to the

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- f. Color has had little discussion. It was agreed that it should at least be given a test.
- g. Eastman Kodak is greatly desirous of obtaining an estimate of material requirements for duplicate negatives, etc. They were quite surprised at the mention of a possible need for four duplicate negatives, as their equipment estimates had not taken into consideration such quantities.
- h. The double emulsion film should be available early in the testing phase.
- i. The charting camera film will probably be in a roll about 12 inches in diameter.
 - j. The double emulsion film will not occupy any additional space.
 - k. Eastman Kodak is presently intending to prepare a duplicate positive after the first processing step, as insurance against any failure of the second processing step. This will be destroyed on completion of the second step.

Prints



- a. It does not appear that we will require the preparation of "quick-run" prints. The time required for processing a mission should be from 1 3 days and would not warrant a special set of prints, provided the finished material is shipped immediately after completion of processing.
- b. The rectified charting prints will be approximately 20 inches in width.
- c. The prints for the $18^n \times 18^n$ and $13^n \times 13^n$ camera will be prepared in two sections (same as negatives).
- d. Prints will be cut, and not in roll form.

7. Minicard

There was a good deal of discussion concerning the Minicard system. It appears there have been misconceptions on our part with regard to the assignment of the Minicard equipment. Previous conversation led me to believe that a full complement of

-5-

equipment was intended for use in the Central Interpretation Unit. The present list of equipment on order, as understood by Eastman Kodak, is intended for handling of documentary material rather than aerial photography. The camera enlarger and viewers are intended for documents. The question of what Minicard material would be provided by Eastman Kodak was discussed. We pointed out that it would not be practical to encode preliminary coordinates as these will only be approximations until the accurate photos are prepared in the Unit. Any additional information must wait until the interpretation phase has been completed. In consequence, the only practical requirement would be the preparation of one set of cards encoding the mission data. said he believed it would be more practical to provide the equipment for the Unit and prepare all cards at the Unit rather than in Rochester. The manner of preparing cards was discussed and the general plan was to prepare one card for each 9" x 9" frame and four (4) cards for each 18" x 18" or 13" x 13" frame, as the present lense capabilities are not sufficient to handle the large frames in two (2) sections. The Eastman Kodak representatives are extremely anxious to clarify the picture in regard to Minicard.

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