

TITLE: "Irrigation scheduling, freeze warning and soil salinity detecting"

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CONTRACT NUMBER: T-4105B

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STATEMENT OF PROGRESS:

The following list summarizes the EREP and aircraft (A/C) data delivered to Weslaco in support of investigation 356 since February 1.^{a/} The list is presented, along with comments, for verification against records of the Principal Investigators Management Office (PIMO).

Coverage	Date	Location	Comments
A/C Mission 258	12/11/73	Cameron Co.	24-channel MSS digital tapes ordered 2/8/74. Rec'd 34 digital tapes and scan listings on 4/28/74. Rec'd 2 Recon IV digital tapes 4/8/74 and 2 Recon IV digital tapes, 4 data books, and 1 quick look report 4/22/74.
SL-4	12/5/73	Cameron Co.	Rec'd 1 roll (#661) S-192 imagery (Channels 7,11,2) for pass 61 on 4/9/74.
	1/28/74	Amistad Reser. and Carrizo Springs	Rec'd 1 roll (#694) S-192 imagery (Channels 6,9,13) for pass 94 on 4/17/74. Rec'd 2 cans 16 mm S-191 bore-sight camera photography for pass 94 on 4/20/74.

^{a/}Progress report No. 5 lists products received up to this reporting period.

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Upon receipt of the S-192 imagery for 12/5/73, we phoned the PIMO and requested digital tapes of as many S-192 channels as are useable over Cameron County corresponding to data between screening film annotated times 16 14' 4" .8179 and 16 14' 25" .9169.

Several questions about data raised in the last report have been resolved. The PIMO confirmed that the north 1/3 of the Paredes Line Road flight line in Cameron County was missing from the A/C screening products sent us and placed an order for the additional data. It was confirmed that the S-191 data discussed in our last report do not belong to our investigation and that the "frame time" codes for the S-191 data are not interpretable; a letter was received 4/26/74 stating that SL-2 and SL-3 S-191 data will be reprocessed as soon as reprogramming is complete.

The 2 small cans of 16 mm S-191 boresight camera photography received are worldwide coverage for pass 94. This photography was projected and viewed. The frames that looked as if they could be local coverage were examined in detail on a light table with a magnifying viewer but were determined to not be coverage of local sites.

The big disappointment of SL-4 is that data taking on 1/28/74 was discontinued as the spacecraft approached our test sites. The day was clear and the spacecraft was directly in track with the test sites. Thus, the only other coverage of Cameron County that was obtained during all the EREP launches is that of 12/5/73, and on that date there were enough clouds to interfere with computer classification of the ground conditions.

The 34 digital tapes from A/C Mission 258 will be examined in the near future to determine whether the complete flight line (Paredes Line Road) was provided. (Recall that the north 1/3 of the line was missing on the duplicate positive transparencies of the on-board MSS film used 2/8/74 to request the digital tapes.)

We look forward to receiving the photography (S-190A, S-190B) coinciding with the S-192 coverage on 12/5/73.

The approximately 100 soil samples from Cameron County are ready for determining their electrical conductivity and mechanical analysis. Large enough soil samples were brought to the laboratory to spread them out on cloth or plywood and determine their spectral characteristics using the field spectroradiometer. We are continuing to delay the most labor-intensive of these analyses awaiting more detailed determination of the quality of the 12/5/73 EREP S-192 data.

The SL-2 S-190A photography of May 30, 1973, was examined for detectability of chlorosis (iron deficiency) of grain sorghum in a 340-acre field at Faysville, Texas, that was under study. A chlorotic area 21 acres in size was easily identified.

In summary, we are in a holding condition awaiting the delivery of S-192 digital tapes of Starr and Cameron counties. We anticipate a visit by the contract Technical Monitor in May to discuss the relative amounts of effort to be put into data analysis for Starr versus Cameron county, and to decide on analysis priorities in view of the alternatives.