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BIMONTHLY REPORT FOR NAS5-21816, PROPOSAL 299
for the period April 1, 1973 - May 31, 1973

Task 2

(UN 268) Investigation to Relate the Chlorophyll and
Suspended Sediment Content in the Waters of the Lower
Chesapeake Bay to ERTS-1 Imagery
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E73-10851) INVESTIGATION TO RELATE THE
CHLOROPHYLL AND SUSPENDED SEDIMENT CONTENT
IN THE WATERS OF THE LOWER CHESAPEAKE
BAY TO (Old Dominion Univ. Research
Foundation) C8J 08J

Submitted to the

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By the

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PROGRESS REPORT

ERTS-1 Proposal 299-2

Report Period: April-May, 1973

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During April-May, 1973, surface data collections were made over lower Chesapeake Bay during the three ERTS overpasses on April 8 and 26, and May 14.

Surface data collected included helicopter-sampling of water for chlorophyll and suspended-particulate count analysis in lower Chesapeake Bay and James River, and ship-sampling for suspended particulates, temperature, and salinity. Continuous transmittance profiles over three lower Chesapeake Bay baselines were also obtained.

Imagery was received for the May 14 overpass only. This shows some cloud cover, but is partially usable. Cloud cover prevailed during the two April overpasses.

Transmittance and bathymetric data has been digitized for computer correlation with the bulk tapes. X-ray diffraction analysis of selected suspended particulates has been made. A computer program to extract radiance values from the bulk tapes has been written, and is being refined so that radiance values along the surface-monitored baselines can be extracted.

An abstract has been submitted and accepted for the American Society of Photogrammetry--Symposium on Remote Sensing in Oceanography, on October 1-4, 1973. The title of the Paper will be "Transmissometry and suspended matter in lower Chesapeake Bay: Correlation with ERTS multispectral imagery".

Preparations are underway to continue ground data collections during the summer. Two combined helicopter-ship operations are planned: one to sample the bay mouth - open shelf transition in water characteristics, and the other to sample the Hampton Roads - James River areas.