

The University of Kansas
Space Technology Center

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PROGRESS REPORT

FOR

THE PERIOD JUNE-AUGUST 1973

FOR

SKYLAB STUDY OF WATER QUALITY

NASA CONTRACT NAS 9-13271

EREP PROPOSAL NO. 540-G1

TASK-347

SITES-416 + 423

PRINCIPAL INVESTIGATOR: H. L. YARGER

REPORT PREPARED BY:

James R. McCauley
JAMES R. McCAULEY
RESEARCH SCIENTIST

REPORT APPROVED BY:

Harold L. Yarger
HAROLD L. YARGER
PRINCIPAL INVESTIGATOR

(E73-10939) SKYLAB STUDY OF WATER
QUALITY Progress Report, Jun. - Aug.
1973 (Kansas Univ.) 3 p HC \$3.00

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I. Summary of Research Objectives

Two Kansas reservoirs will be studied using Skylab data in conjunction with simultaneous ground truth information in an attempt to detect and monitor various parameters of water quality. Water samples will be collected from the reservoir or reservoirs under investigation and low-level aircraft support missions will be flown to acquire photographs which will approximate the spectral coverage of forthcoming Skylab photographs. Image analysis and data processing techniques will be developed to aid in the correlation of Skylab data with ground truth data and supporting aerial photography.

II. Work Performed During This Period

Sampling of Perry and Tuttle Creek reservoirs, the two lakes of primary interest to this investigation continued during this period on an 18 day basis in conjunction with days of ERTS overflight. No change has been made in the sampling scheme of these two lakes nor in the chemical analyses of the collected samples as outlined in the previous progress report and in the Ground Truth Plan. Considerable experience has been gained in both areas and ground truth teams and chemists are well prepared for a possible EREP data mission over our test sites.

Two potential series of EREP data-taking missions occurred during this period: June 3, 18 and 13, and August 6 and 11. All of these missions were canceled. However, ground truth teams were in readiness and ground truth was collected at both lakes on June 13 even though no Skylab data was collected. An aircraft support team was also standing by on these occasions. This team has experience in collecting supporting photography in this area. Film and filter combinations similar to those desired in our investigation have been used many times in other projects and with good results. Therefore, we feel that the aircraft support crew is well prepared for any upcoming EREP mission over our sites.

Expertise has been gained in the analysis of images using the IDECS, and in the use of computer-compatible-tapes acquired as part of the ERTS project. This expertise will be applied to the analysis and processing of similar Skylab data products. Test tapes and a head alignment tape have been received which will aid in the adaption of present equipment and techniques to the processing of Skylab CCT's.

III. Conclusions

Although no Skylab data has yet been received, considerable experience has been gained in the collection and analysis of ground truth, the analysis of imagery and the processing of computer-compatible-tapes. All personnel concerned with this project are prepared for the collection of ground truth in conjunction with a potential EREP mission, and for the analysis and processing of resulting photos and data.

IV. Finances.

A statement of financial status for this project will be sent under separate cover by the CRINC accounting office.