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CalESCO

CALIFORNIA EARTH SCIENCE CORPORATION

1318 SECOND STREET, SUITE 27 SANTA MONICA, CALIFORNIA 90401 TELEPHONE 395-4528, AREA CODE 213

June 5, 1975

Contract NAS 2-7698
MONTHLY PROGRESS REPORT NO. 24
May 1975

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Program information and for any use made through any agency

Fault Tectonics and Earthquake Hazards in the Peninsular Ranges,
Southern California, EREP Investigation 463

NASA-Lyndon B. Johnson Space Center
Technical Support Procurement Branch
Houston, Texas 77058

Attention: Mrs. Ruth Elder, Mail Stop BB631 (B9)

Dear Mrs. Elder:

California Earth Science Corporation (CalESCO) is pleased to submit its 24th
Monthly Progress Report on the application of Skylab imagery to analysis of
fault tectonics and earthquake hazards in the Peninsular Ranges, Southern
California under NASA Contract No. NAS 2-7698.

Summary Outlook

The principal plans for the immediate future are to prepare the final reports
on our analysis of Skylab data, and to prepare and analyze S192 images. Field
studies of the area covered by the S192 images will be accomplished when the
technical reports in preparation are completed.

Significant Progress

1. A paper entitled "Active and Inactive Faults in Southern California Viewed from Skylab" was prepared and submitted for publication in the Proceedings Volume of the NASA Earth Resources Survey Symposium, Houston, Texas. This paper constitutes a summary of the principal research accomplished on the subject contract.
2. Thin sections of rock exposed along the San Diego River linear were prepared and determined to be fault breccia.
3. Single band and ratio images of the western Mojave Desert were prepared from the S192 digital tapes. Subtle differences in color of soil and rock are apparently enhanced on the ratio images.

(E75-10318) FAULT TECTONICS AND EARTHQUAKE
HAZARDS IN THE PENINSULAR RANGES, SOUTHERN
CALIFORNIA Monthly Progress Report, May
1975 (California Earth Science Corp., Santa
Monica.) 2 p

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4. Several field days were spent in the Peninsular Ranges completing our study of the San Diego River and Otay Mountain faults. In addition, linears between Japatul Valley and Barrett Lake were investigated. Two north-northeast trending linears (Horsethief Canyon and Pine Valley Creek) and an east-west linear (Pine Creek) were concluded to have resulted from erosion along well-developed foliation in crystalline basement rocks.

Expected Accomplishments, Current Month

1. A paper entitled "Active and Inactive Faults in Southern California Viewed from Skylab" will be presented at the NASA Earth Resources Symposium, Houston, Texas, June 8-13, 1975.
2. A paper entitled "Digital Enhancement of ERTS and Skylab S-192 Multispectral Scanner Images of the Mojave Desert, California" will be presented at the American Geophysical Union Meeting in Washington, D.C., June 19, 1975.
3. Work will be continued on the following technical reports:

Investigation of Lineaments on Skylab and ERTS Images of
Peninsular Ranges, Southwestern California

Skylab Imagery of the Salton Trough Area, Southern California

Analysis of the Enhancement Characteristics of Pseudocolor
Transformations

Travel Summary and Plans

Trips to Houston, Texas and Washington, D.C. to present the above referenced papers are planned.

Very truly yours,

CALIFORNIA EARTH SCIENCE CORP.

Paul M. Merifield

Paul M. Merifield
Principal Investigator

cc: NASA
Scientific and Technical Information Facility
Attn: Earth Resources
P.O. Box 33
College Park, Maryland 20740

NASA-Lyndon B. Johnson Space Center
Earth Observations Division
Attn: Dr. David Amsbury, Mail Code TF6
Houston, TX 77058

NASA-Lyndon B. Johnson Space Center
Earth Resources Program Office
Attn: Robert K. Stewart, Mail Code HD
Houston, TX 77058