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(E80-10163) HCMM: SOIL MOISTURE IN
RELATION TO GEOLOGIC STRUCTURE AND
LITHOLOGY, NORTHERN CALIFORNIA (Stanford
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TITLE: HCMM - Soil Moisture in Relation to Geologic Structure
and Lithology, Northern California

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PRINCIPAL INVESTIGATOR: Ernest I. Rich
Department of Geology
Stanford University
Stanford, CA 94305

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General Statement:

Numerous sets of imagery have been received during the quarter. Although a first-look examination has been made of all the images, only a few have been examined in detail because most were received late in the quarter. T.D. and A.T.I. images covering a very minor part of the project area were also received late in the quarter. Retrospective orders for additional T.D. and A.T.I. images has been prepared.

Accomplishments:

See below

Significant Results:

Day-and Nite - IR images of the Late Mesozoic interbedded sandstone and shale units along the western margin of Sacramento Valley, Calif. taken at seasonally critical times of year (late spring/early summer and late fall/early winter) were optically enlarged and examined for potentially significant variations in thermal signature (graytone).

Empirical observations on the ground and the examination of color IR photos from aircraft flights indicate that in grassland terrain the vegetation overlying sandstone tends to become less vigorous sooner in the late spring season than does the area overlain by an adjacent shale unit. The reverse relationship obtains in the late fall season. These relationships are thought to be a reflection of the relative porosity of each of the units and hence on their ability to retain or lose soil moisture. Comparison of subtle seasonal variations of graytone on the HCMM satellite images tends to support these empirical observations, after due consideration of sun angle and azimuth and internal consistency of data on each^{set} of the satellite imagery.

/agc