

DON'T SAY IT-WRITE IT

DATE 10/7/81

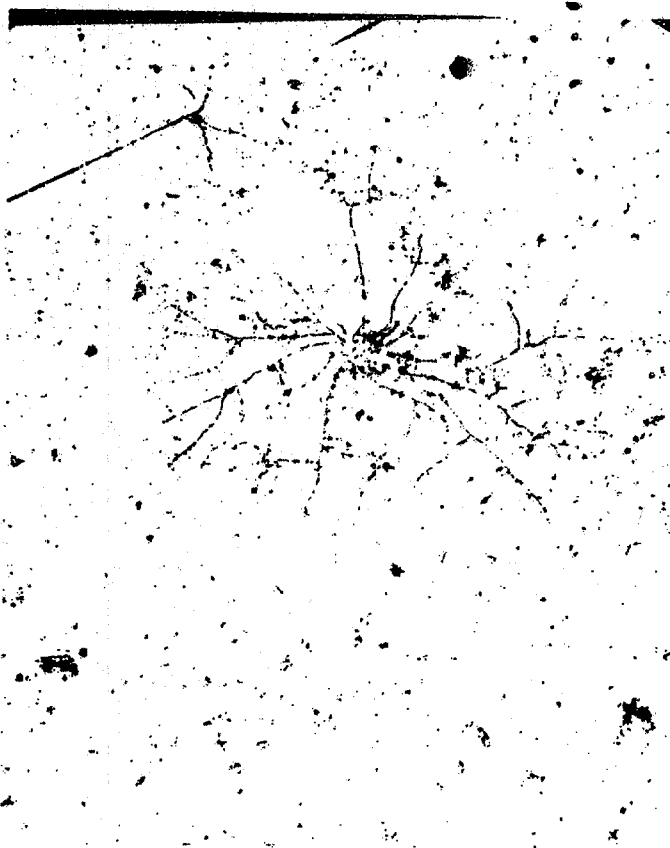
TO C. R. Ginnard
AT _____
FROM B. Chase

At your request we tried to obtain Raman and infrared spectra on exposed and unexposed regions of some representative paint panels. For the Raman work, samples 1783-179-6 and 1783-179-3 were used. With both 5145Å excitation and 4880Å excitation excessive fluorescence was encountered. Attempts were made to quench the fluorescence by leaving the sample in the laser beam for several hours, but sample decomposition resulted. This high fluorescent background was more severe in the UV exposed regions. All data were taken on a S-Y microprobe with photon counting detection. Incident laser power was varied from 10 mwatts to 800 mwatts.

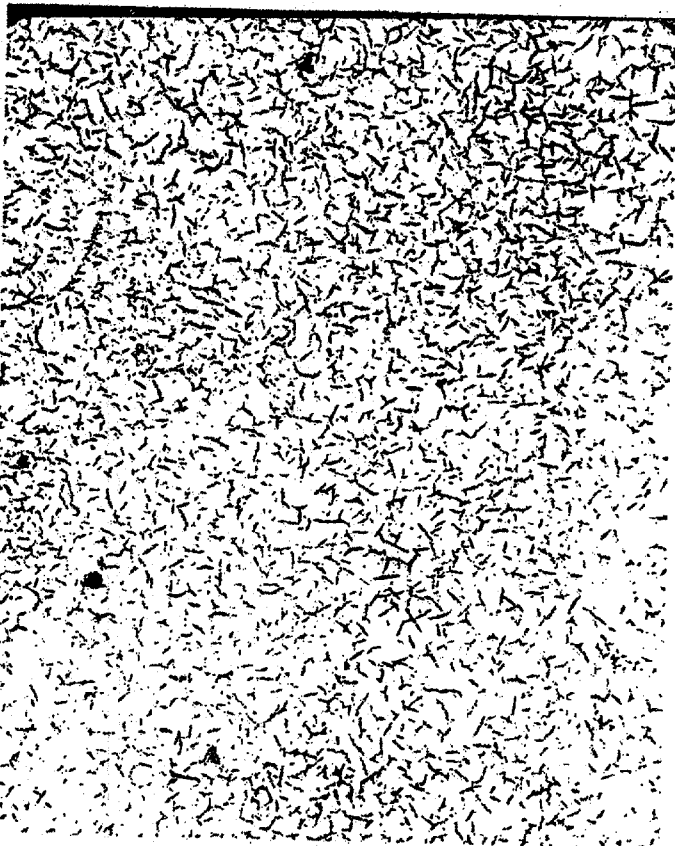
Sample 1783-179-6 was used in an infrared specular reflection experiment. Incident angle was $\sim 80^\circ$. The material behaved like a low quality mirror, i.e., a flat reflectance curve with no spectral features and an average reflectance of 30%. These data were obtained on a Nicolet 7199 interferometer.

Neither technique showed any promise for measuring differences between exposed and unexposed paint panels. The most promising method, I believe, has been developed by Alan English and consists of abraiding off layers of the panel and obtaining diffuse reflectance infrared spectra on the powders.

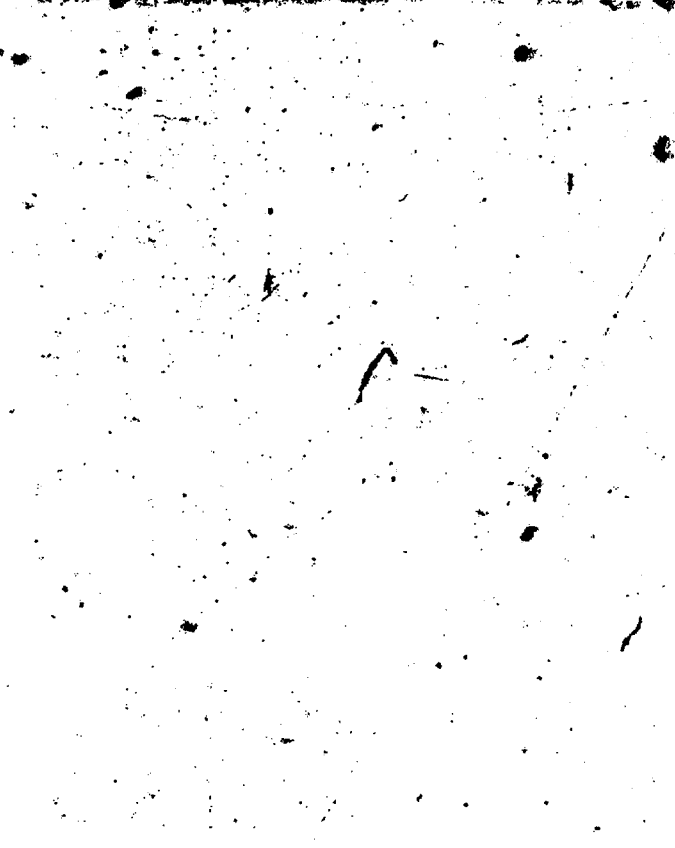
Exposed black box, 6 months (1783-179-3)



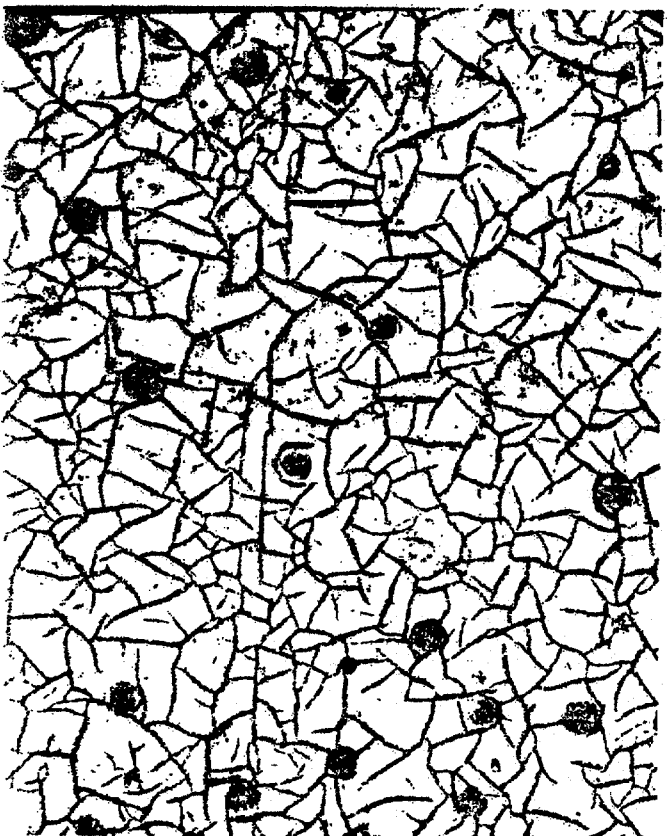
QUV exposed, 2439 hours (1783-179-5)



Unexposed Panel (1783-179-2)



QUV exposed, 5226 hours (1783-179-4)



Florida black box, 12 months (1783-179-6)
Unexposed control area

Florida black box, 12 months (1783-179-6)
Exposed area