Core and Outcrop-scale Permeability Mapping Using IR Imaging

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Presentation Outline

- Heterogeneity in subsurface at Hanford
- Fine-scale mapping of permeability using IR imaging
- Application of IR imaging to VZTF cores
- Future developments

QuickTime™ and a
Photo - JPEG decompressor
are needed to see this picture.

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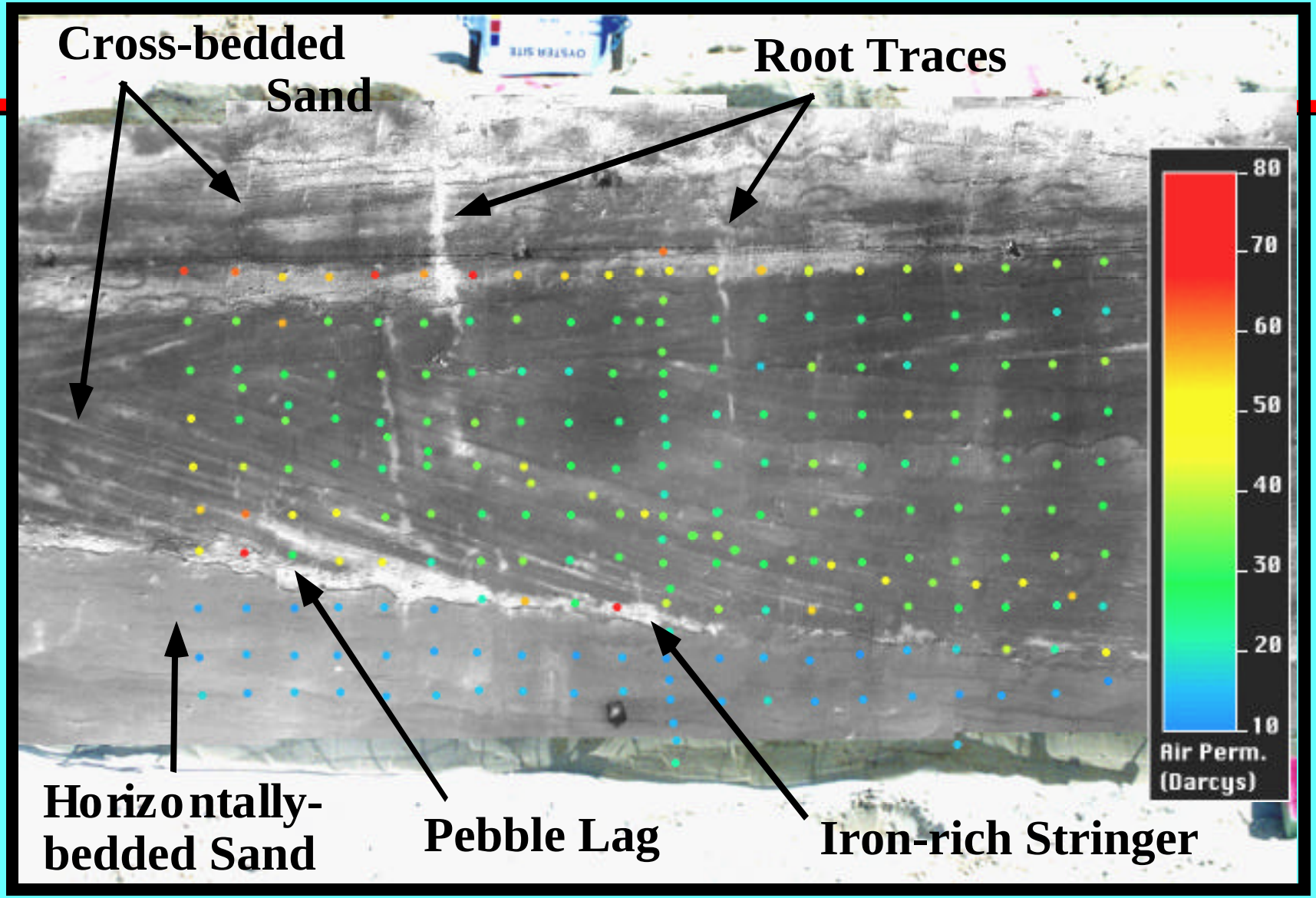

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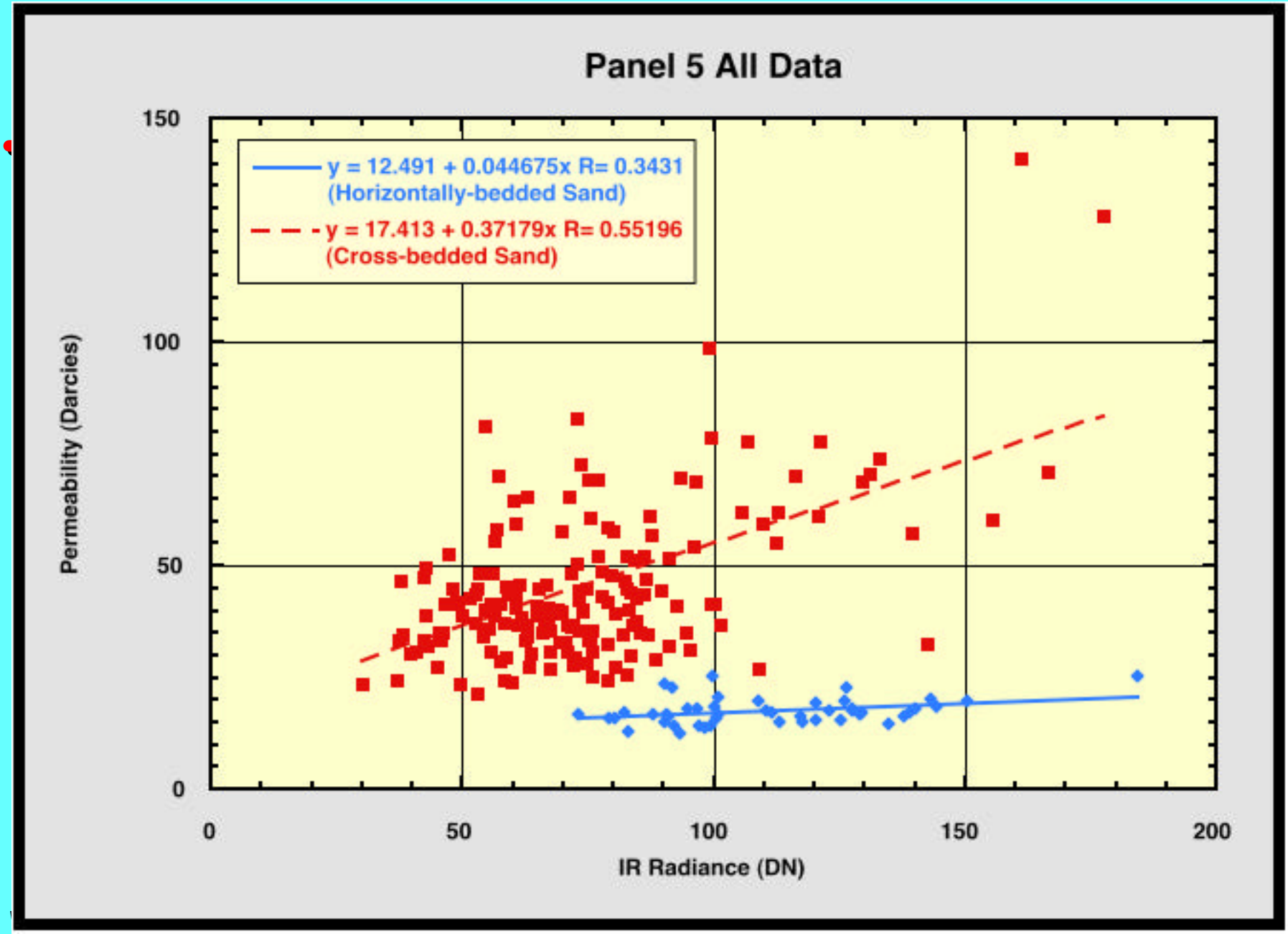
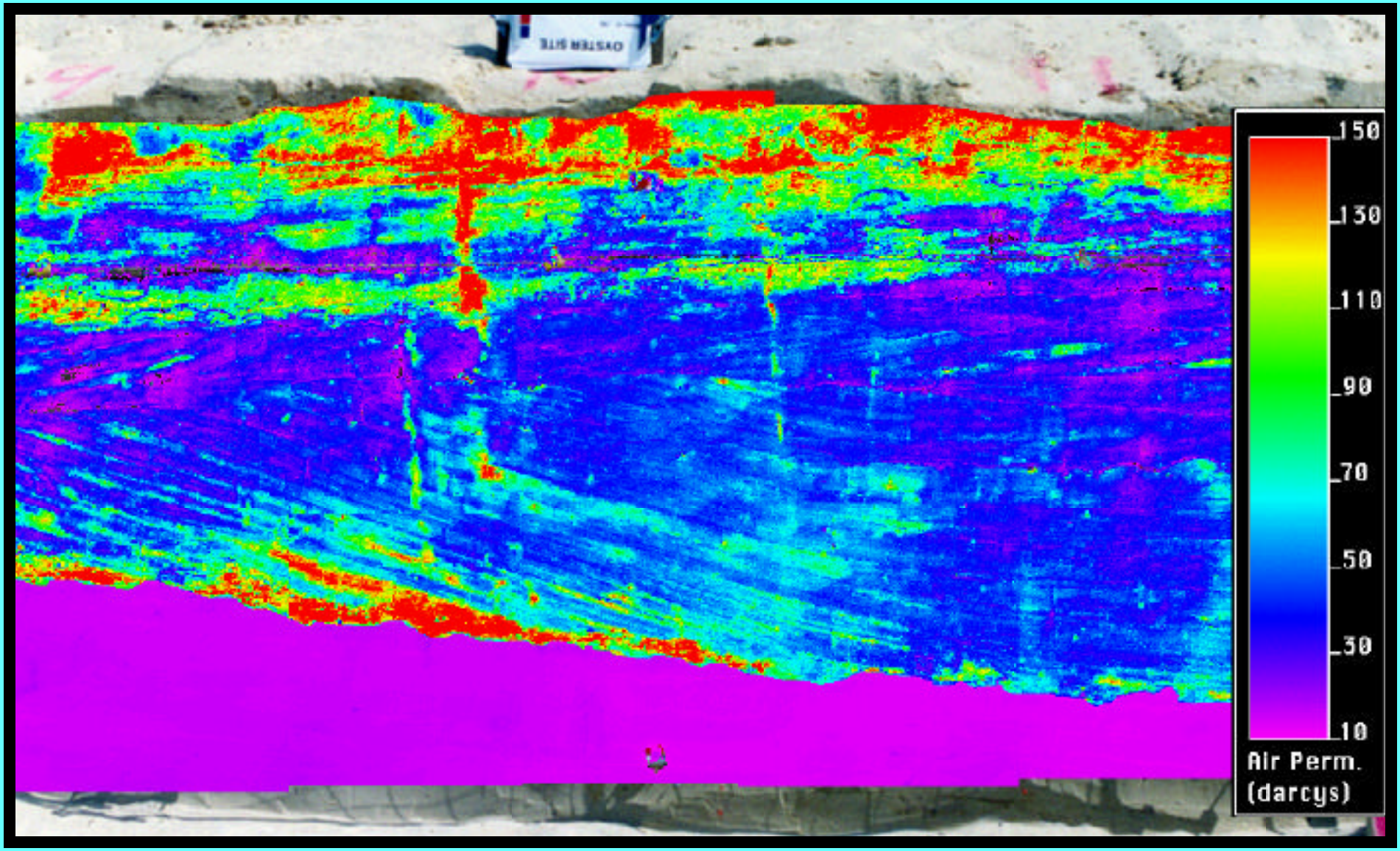

Panel 5 All Data
y = 12.491 + 0.044675x R= 0.3431
(Horizontally-bedded Sand)
y = 17.413 + 0.37179x R= 0.55196
(Cross-bedded Sand)
Permeability (Darcies)
150
100
50
0
0
50
100
150
200
IR Radiance (DN)



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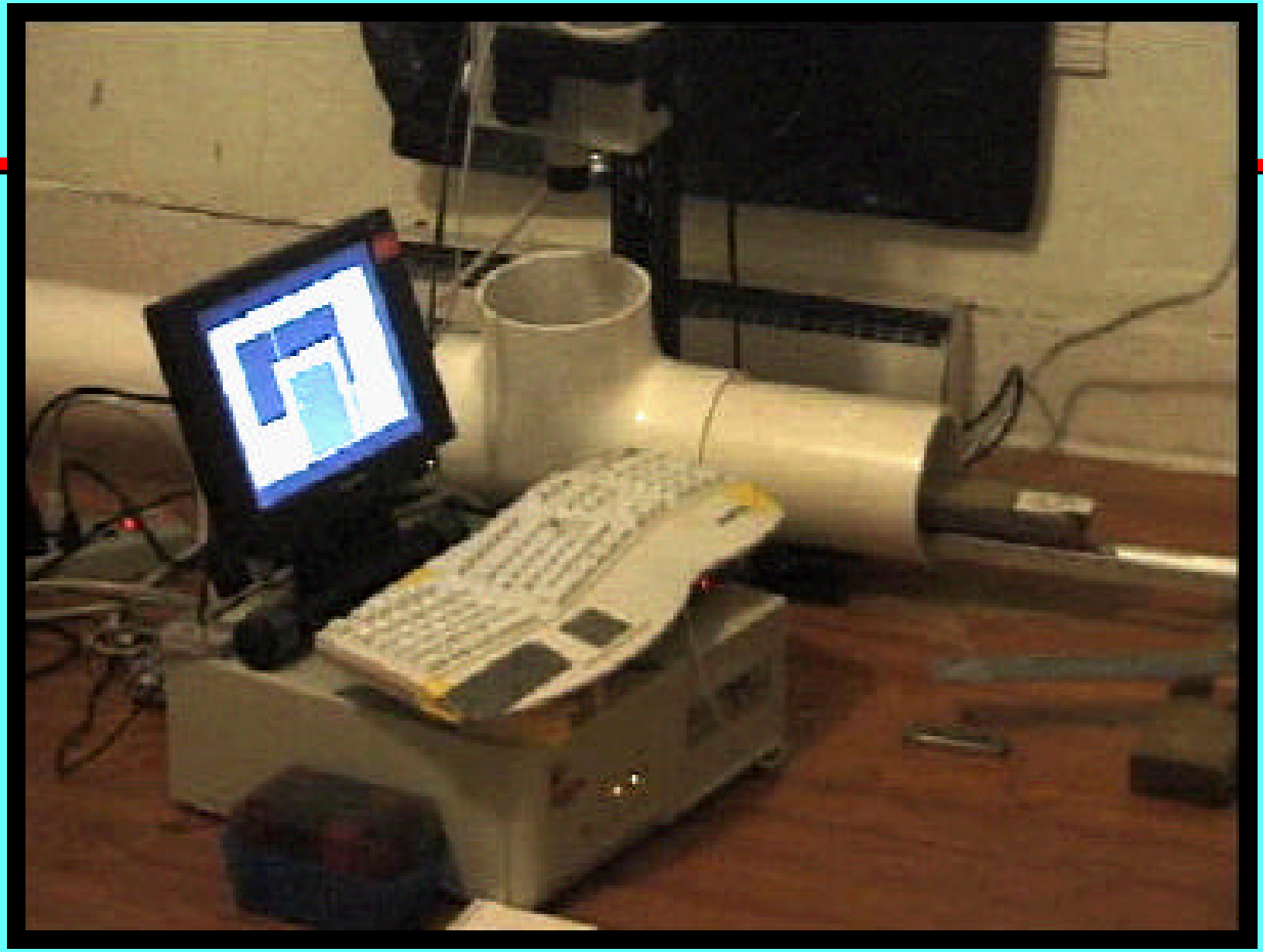

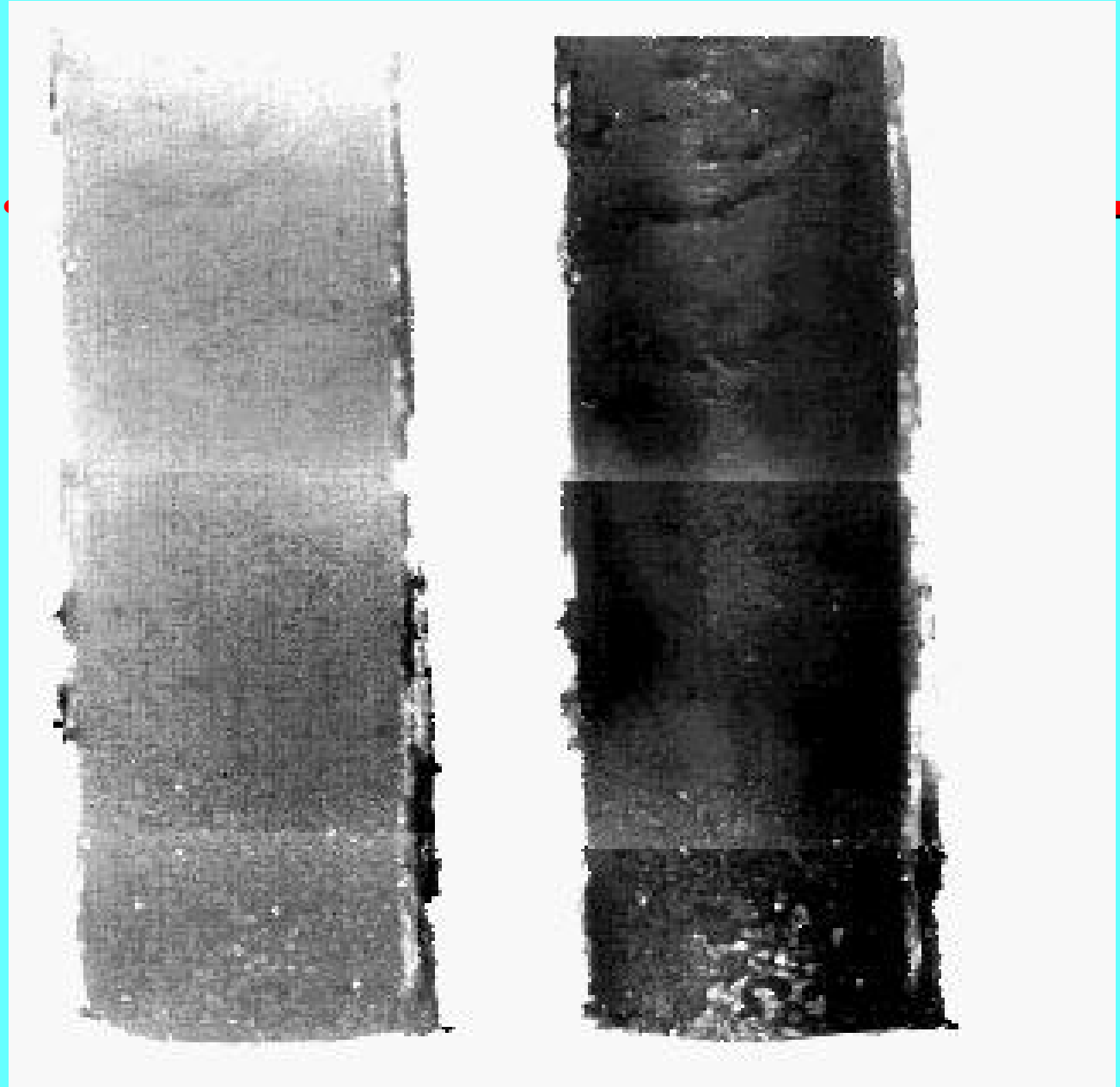

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Application to VZTF

- Cm-scale permeability variations as a function of depth can be estimated for core samples
- Provides data for scaling to larger stratigraphic units (detectable by geophysical methods)
- Leveraging with Clastic Dike EMSP Project will further constrain interpretations