

LISBOA 2010
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16th World Meeting

Use of Ground Penetrating Radar (GPR) Survey to Enhance Network Level Life Expectancy Analysis and Rehabilitation Design

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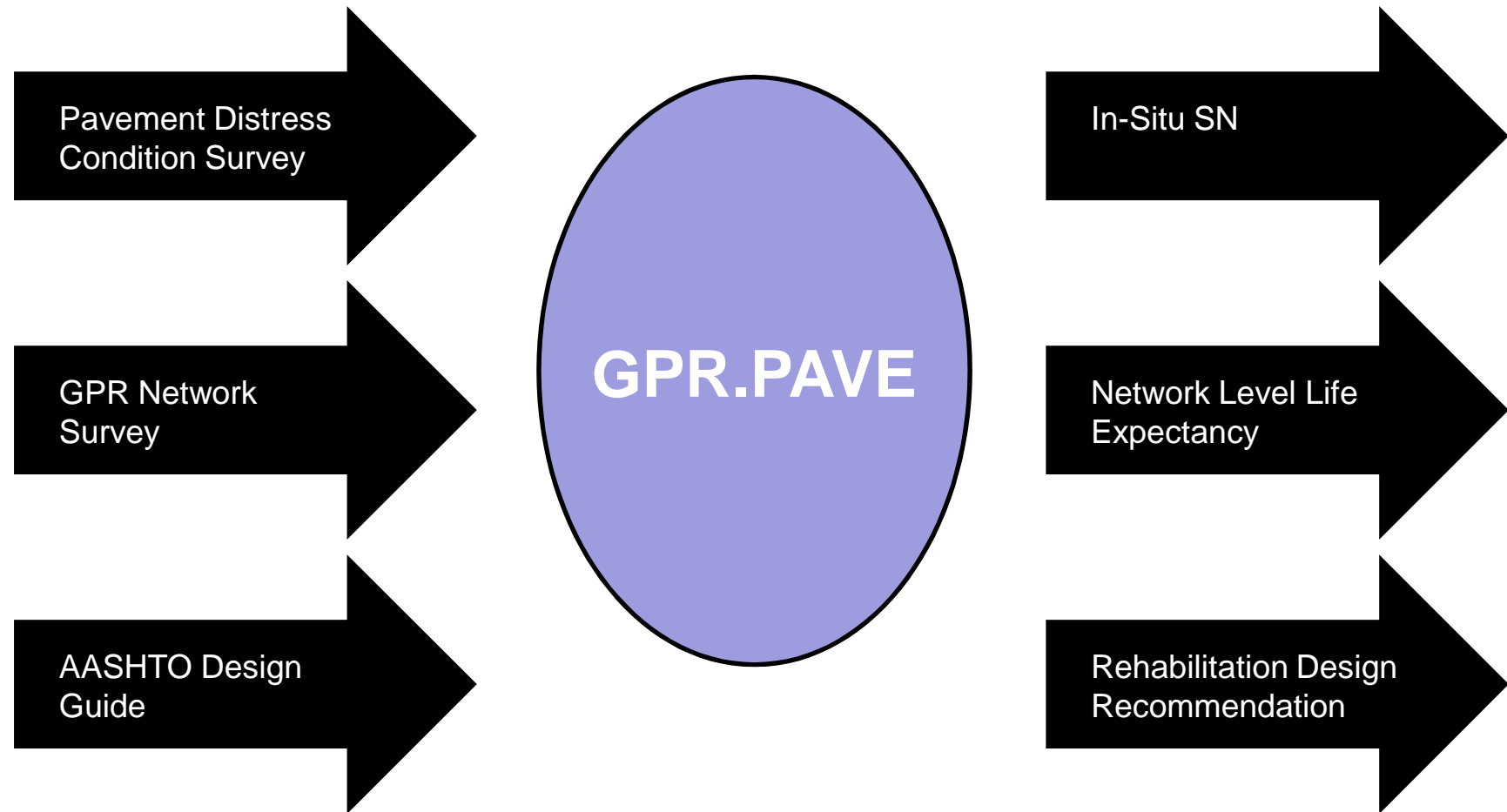
Cherif Amer-Yahia, Ph.D., P.E.

Todd Majidzadeh, Vice President

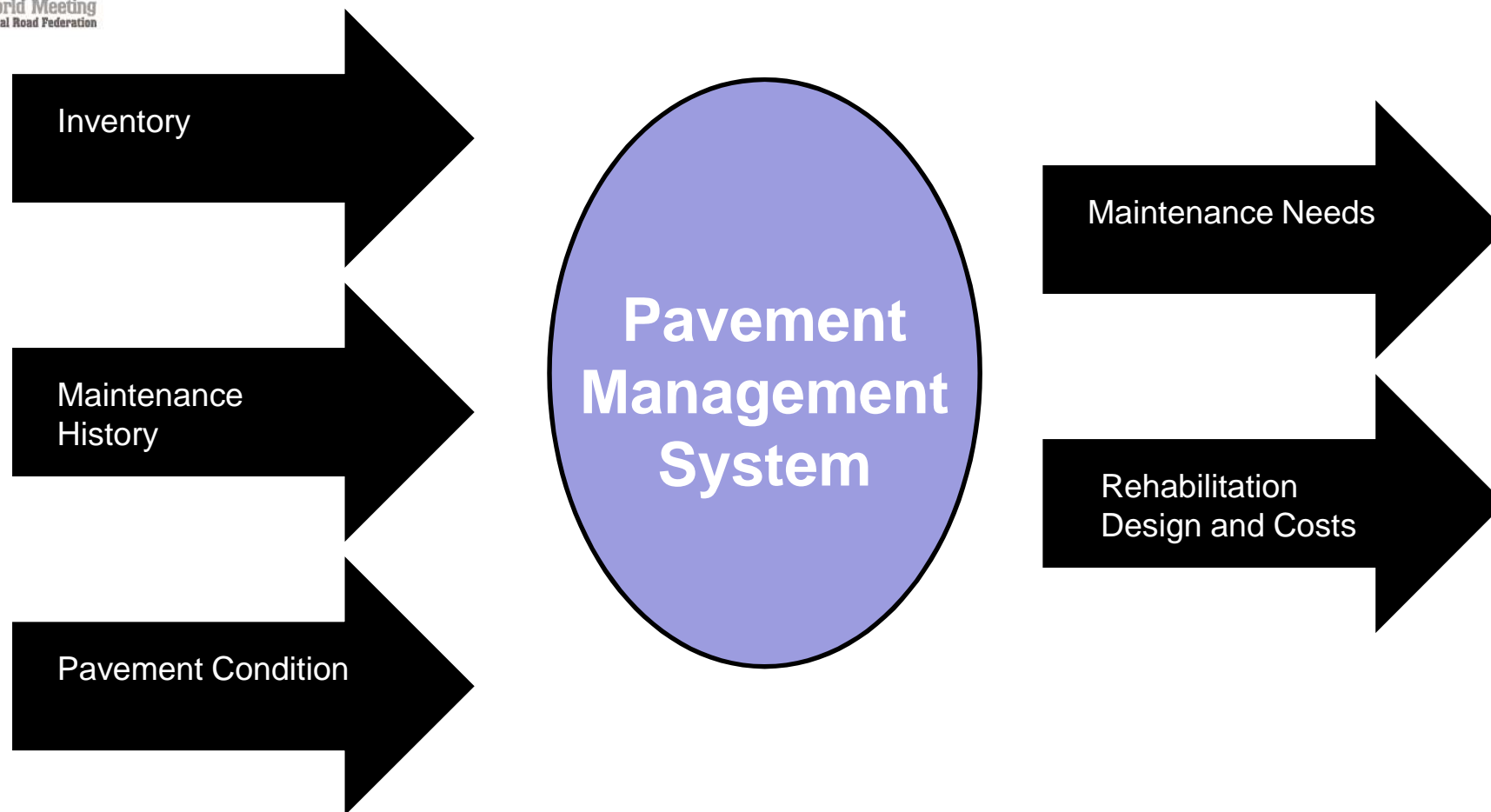


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Use of GPR Survey



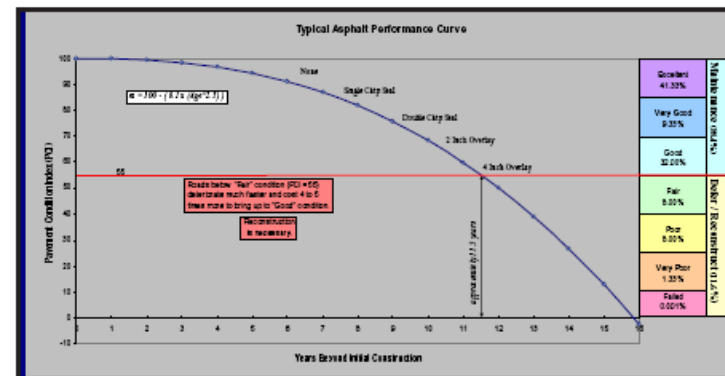
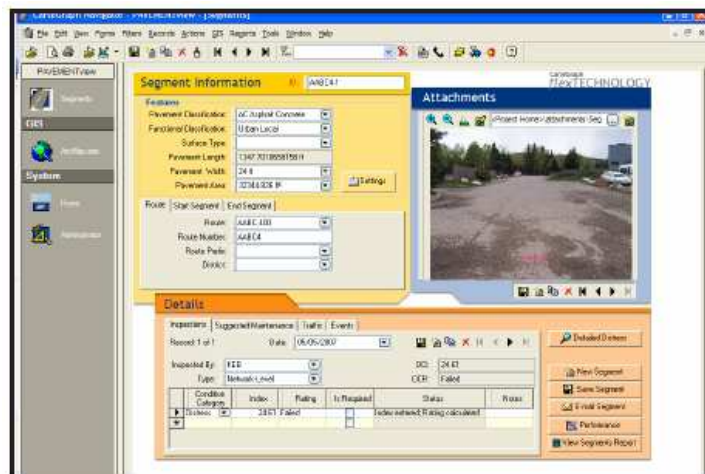
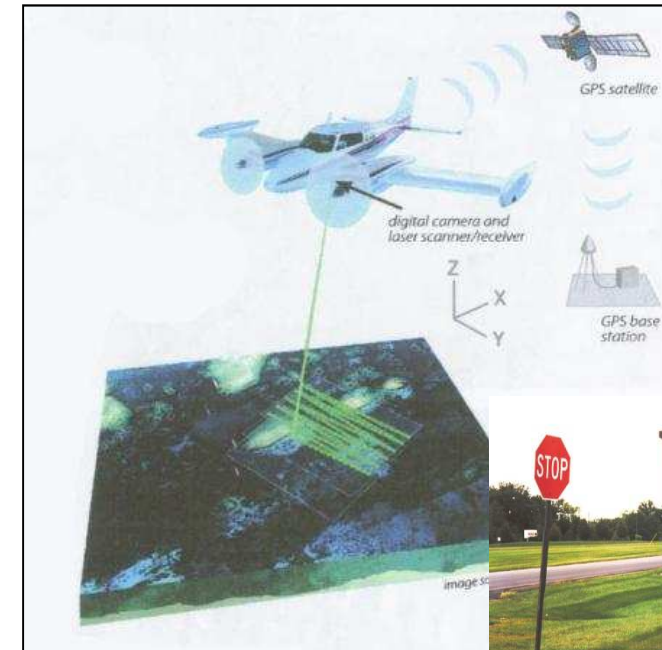
Network Analysis



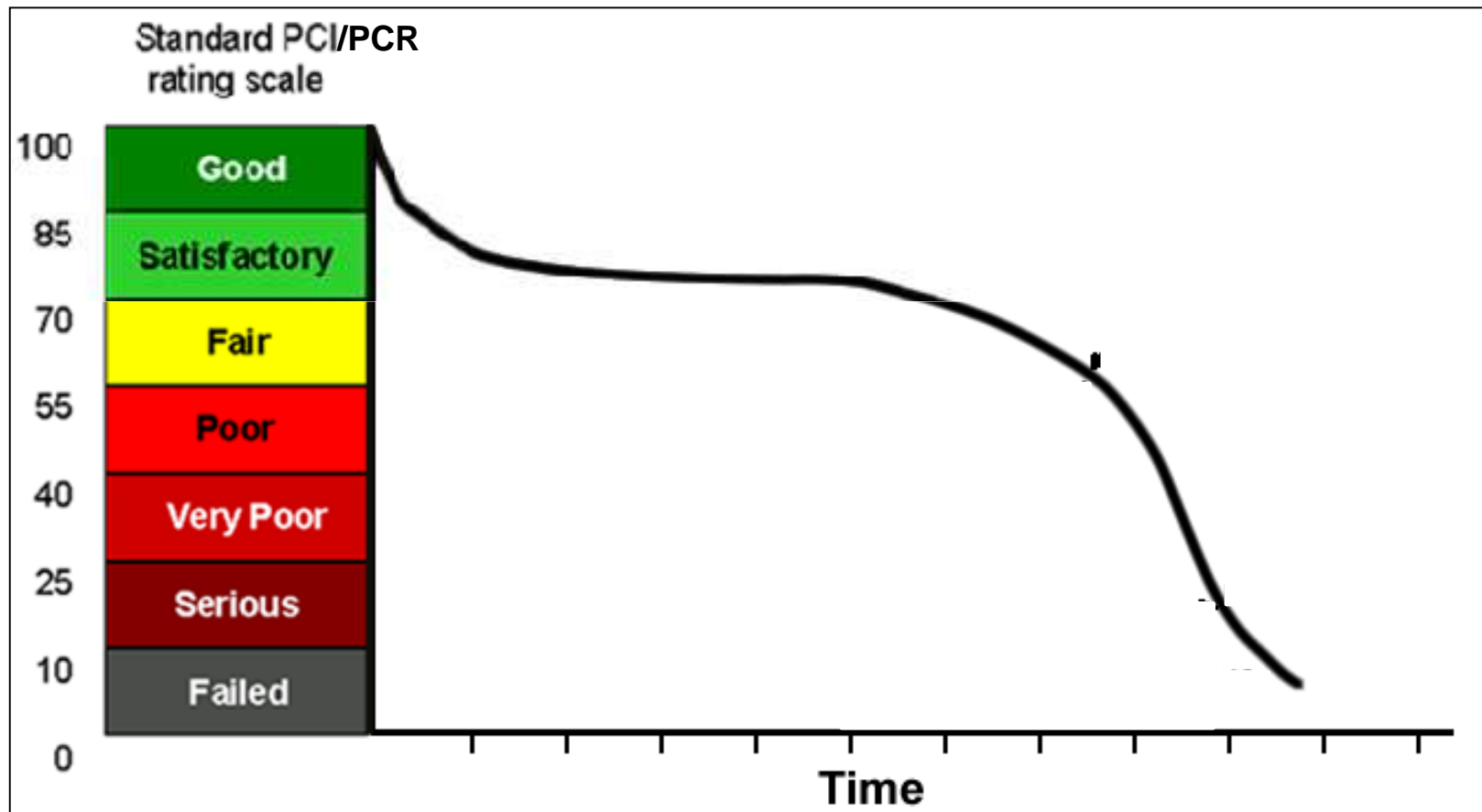
PMS: Maintenance Needs

Pavement Distress Condition Survey

- Comprehensive Network Inventory
- Comprehensive Network Condition



Pavement Condition Rating



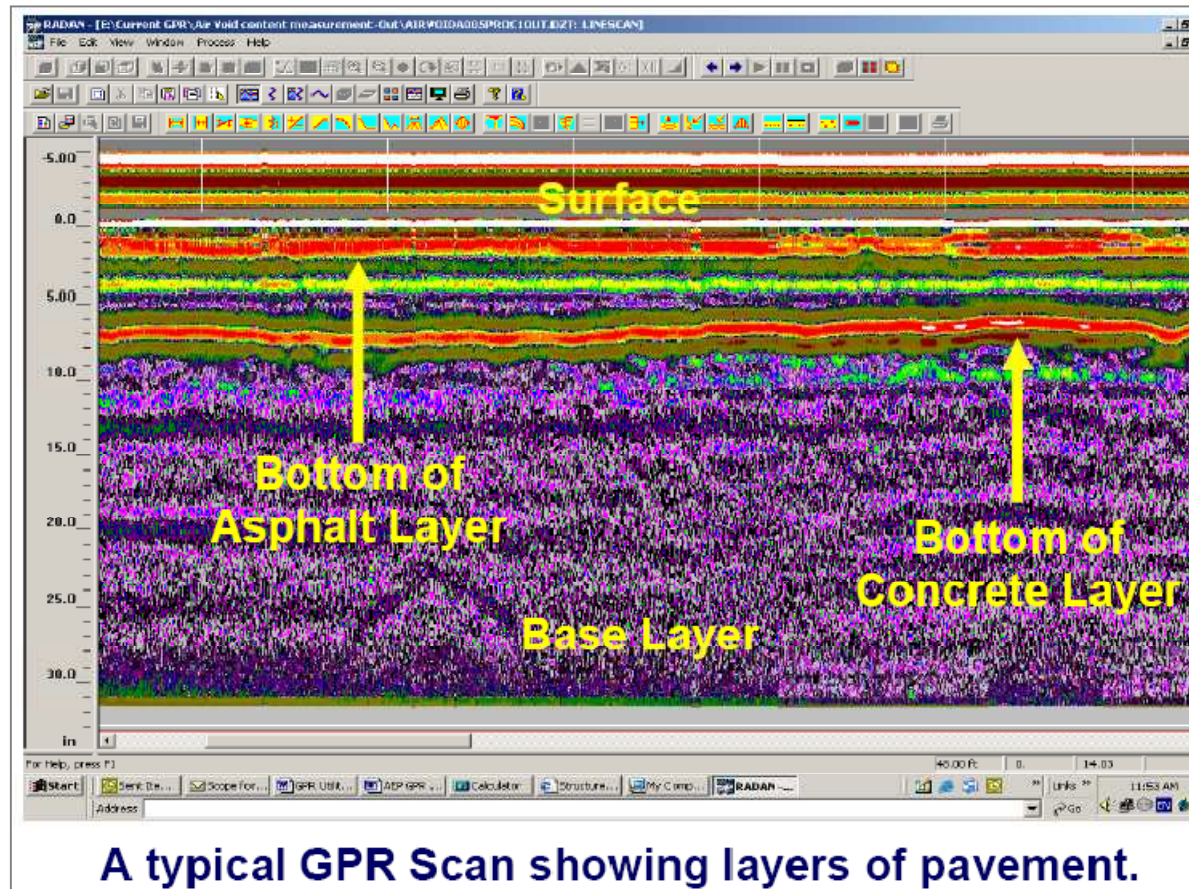
GPR Data Collection/Network Inventory



GPR Data Collection/Network Inventory



View of GPR



View of GPR – Joint Condition



Figure 5a. Visual survey – Joint recommended for “Full Depth Repair”

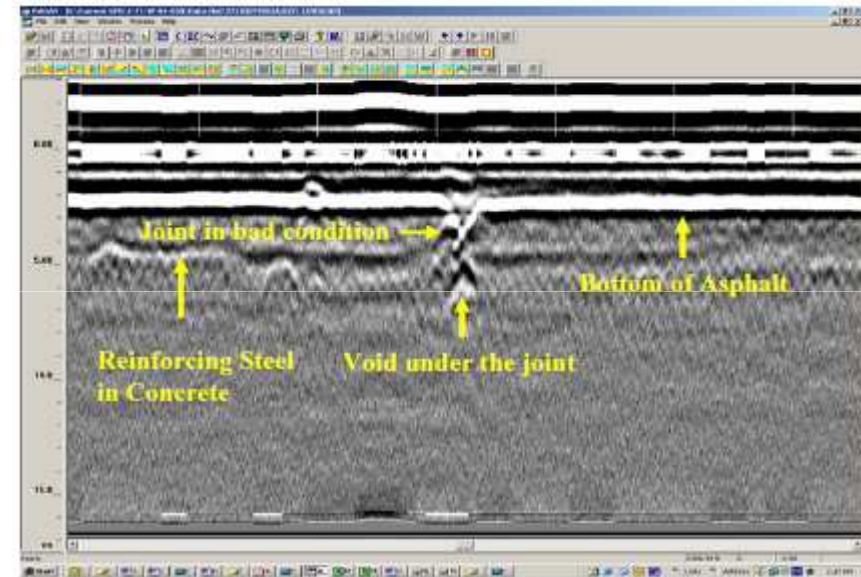


Figure 5b. GPR scan confirming the “Full Depth Repair”

View of GPR – Joint Condition

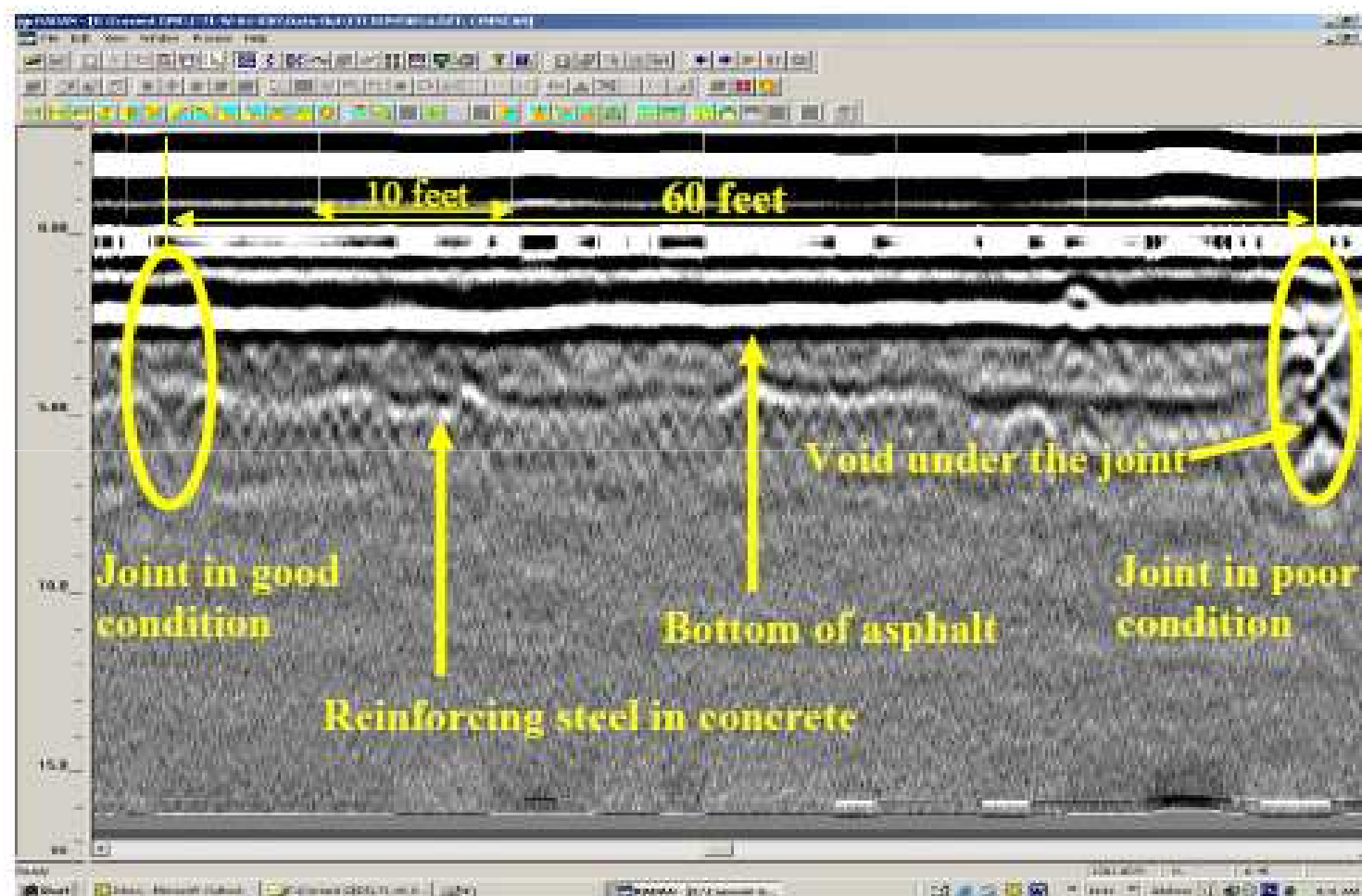
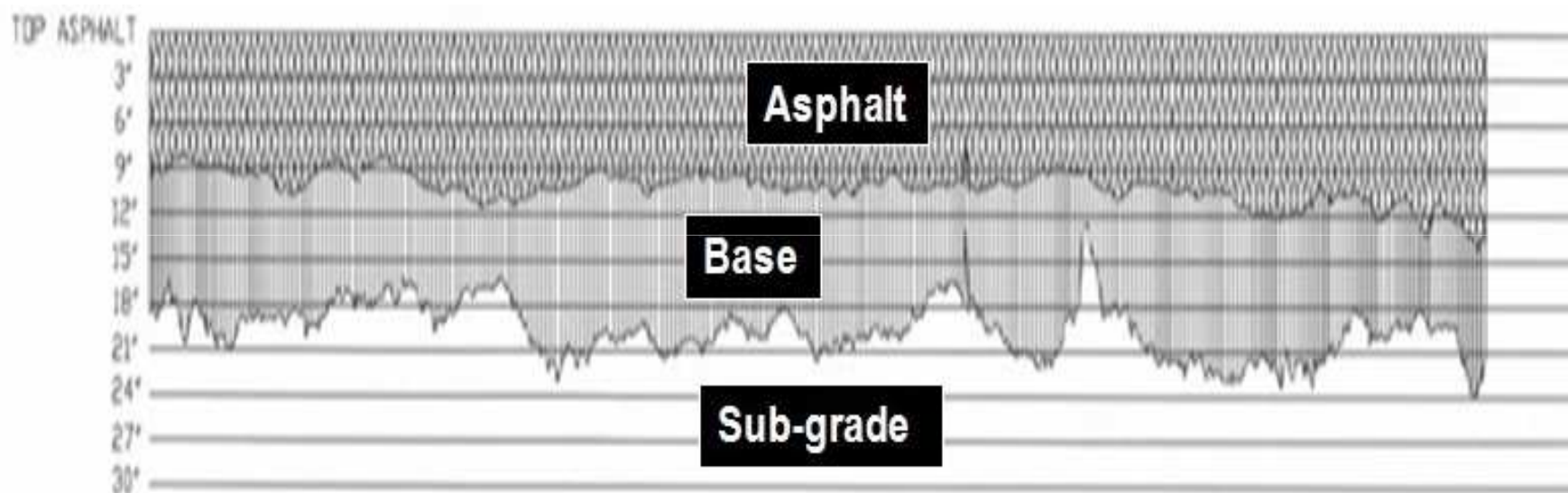


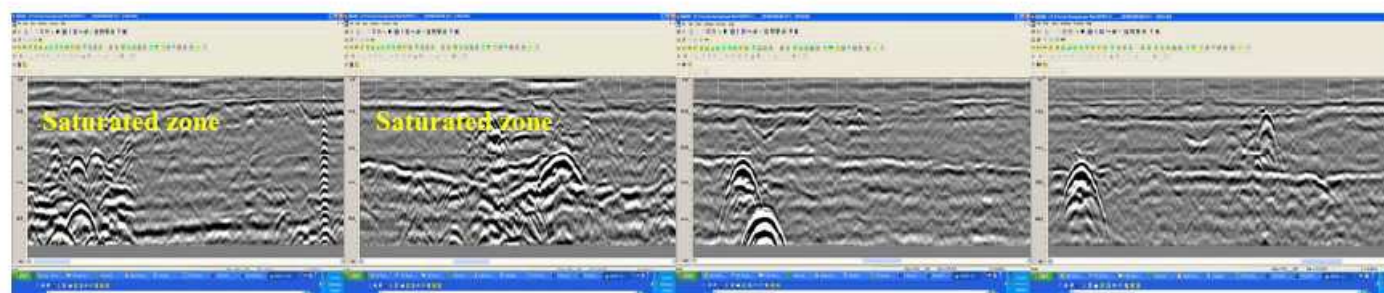
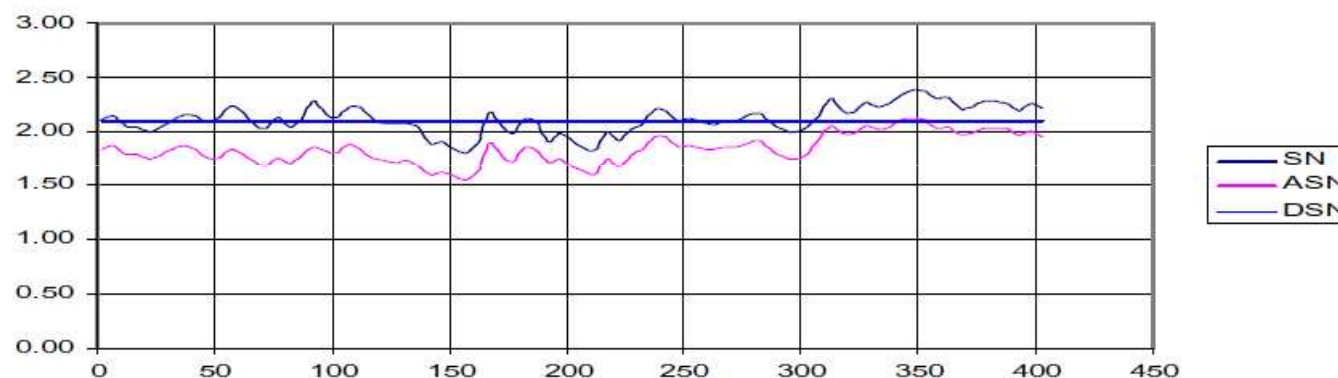
Figure 2. Typical GPR scan showing the condition of the transverse joints

Pavement Thickness Survey



Hamilton-Mason Road, Butler County, Ohio
Longitudinal Section Along Pass #7

Pavement Structural Number

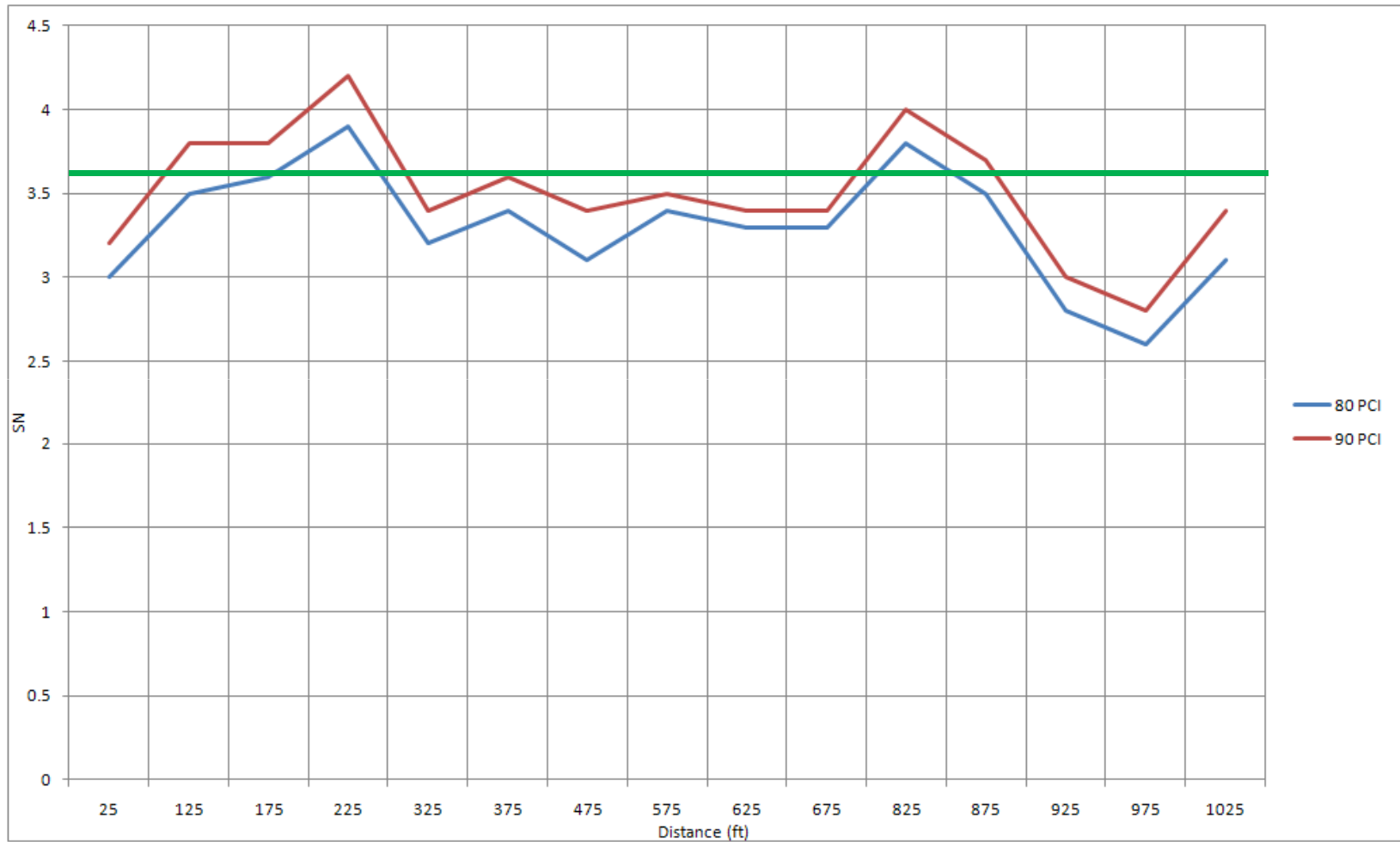


SN: Structural number

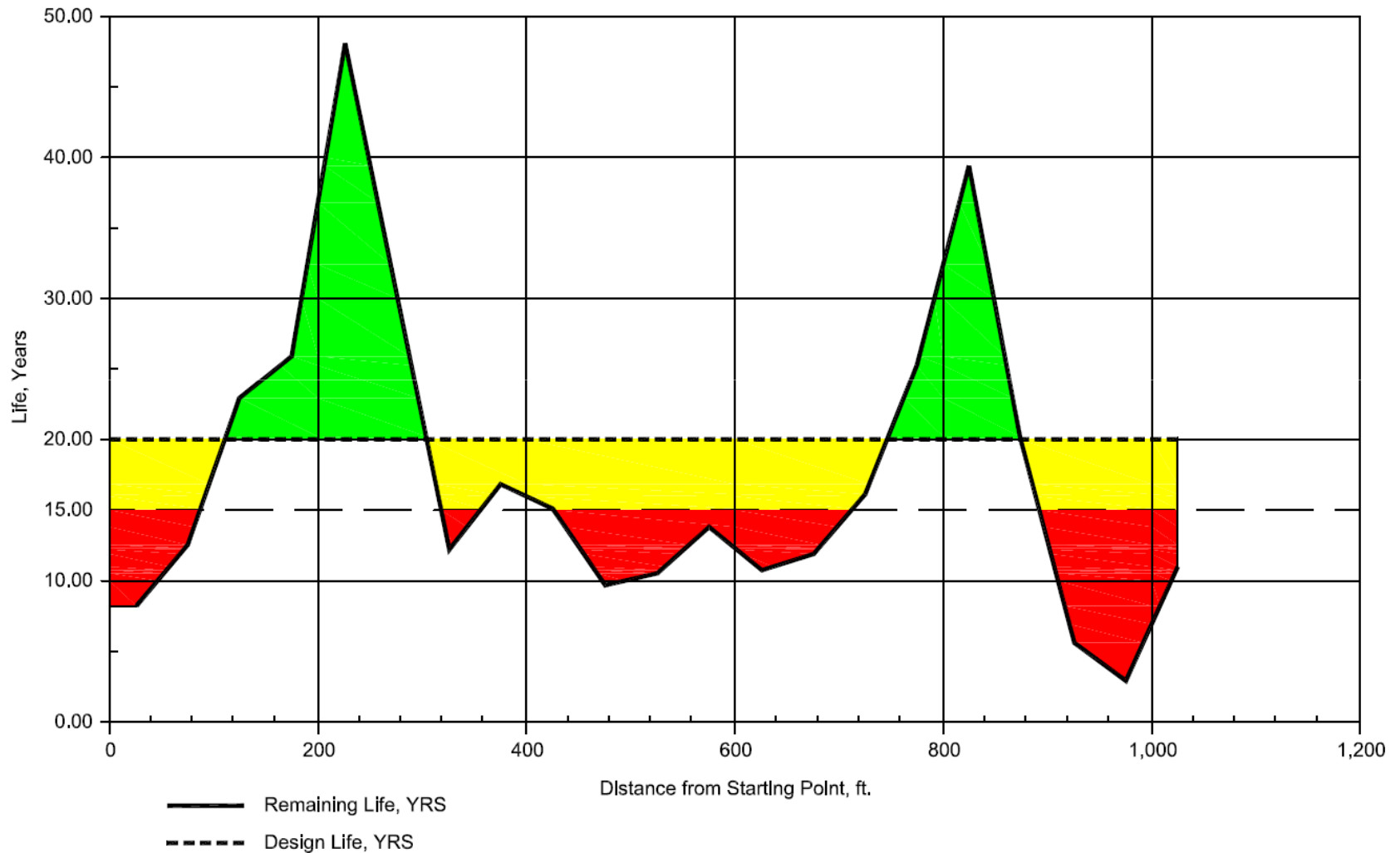
ASN: Adjusted structural number

DSN: Design Structural number

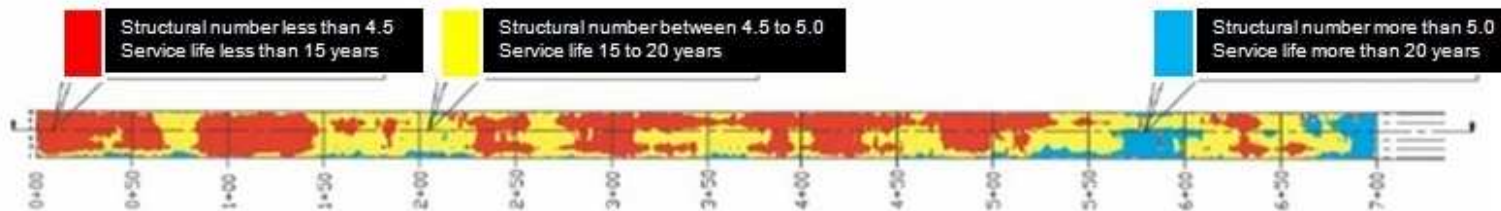
Flexible Pavement Structural Number



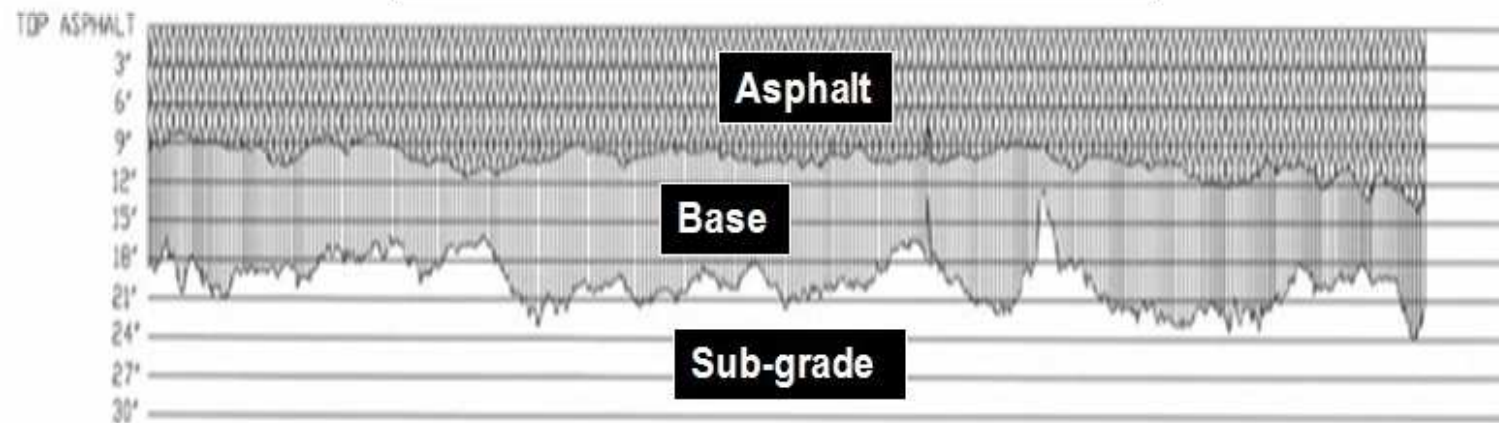
Graphical Plot Design Life and Remaining Life



Pavement Service Life Plot



Pavement Service Life Plot- Eastbound Lane



Hamilton-Mason Road, Butler County, Ohio
Longitudinal Section Along Pass #7



Thank You

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