

Site Characterization Using Physical and Chemical Methodologies

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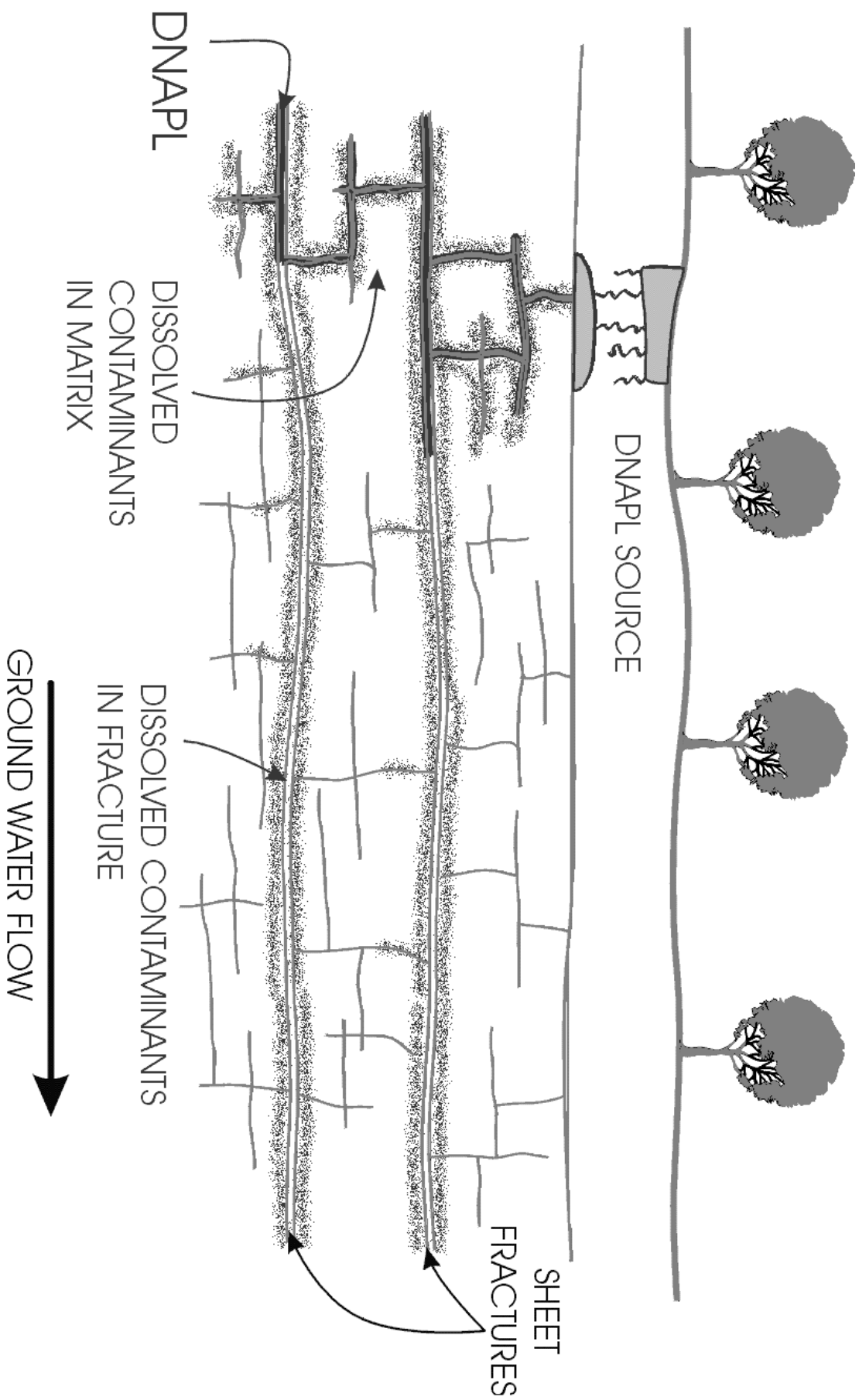
Kingston, ON

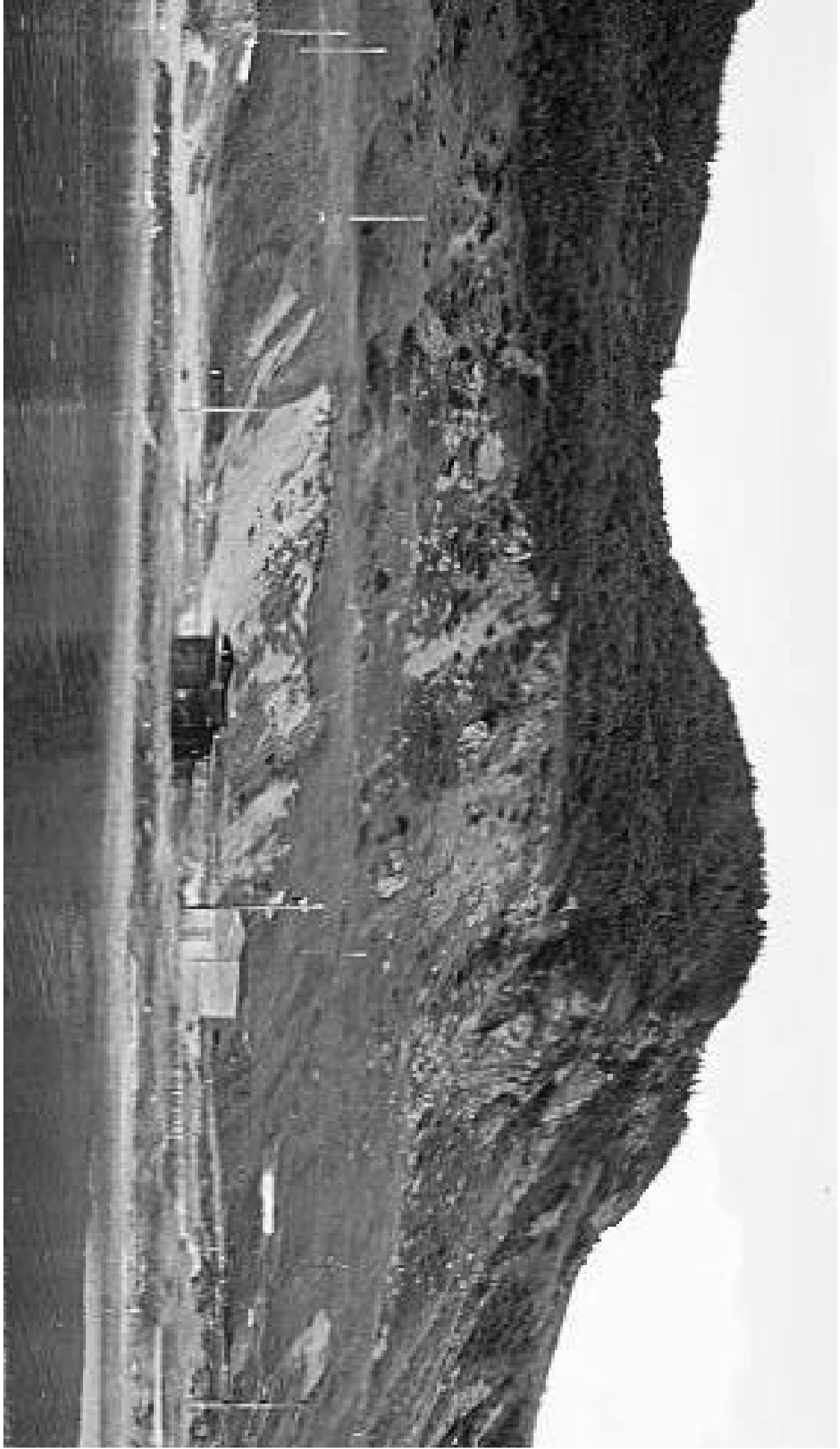
EPA Fractured Bedrock Workshop

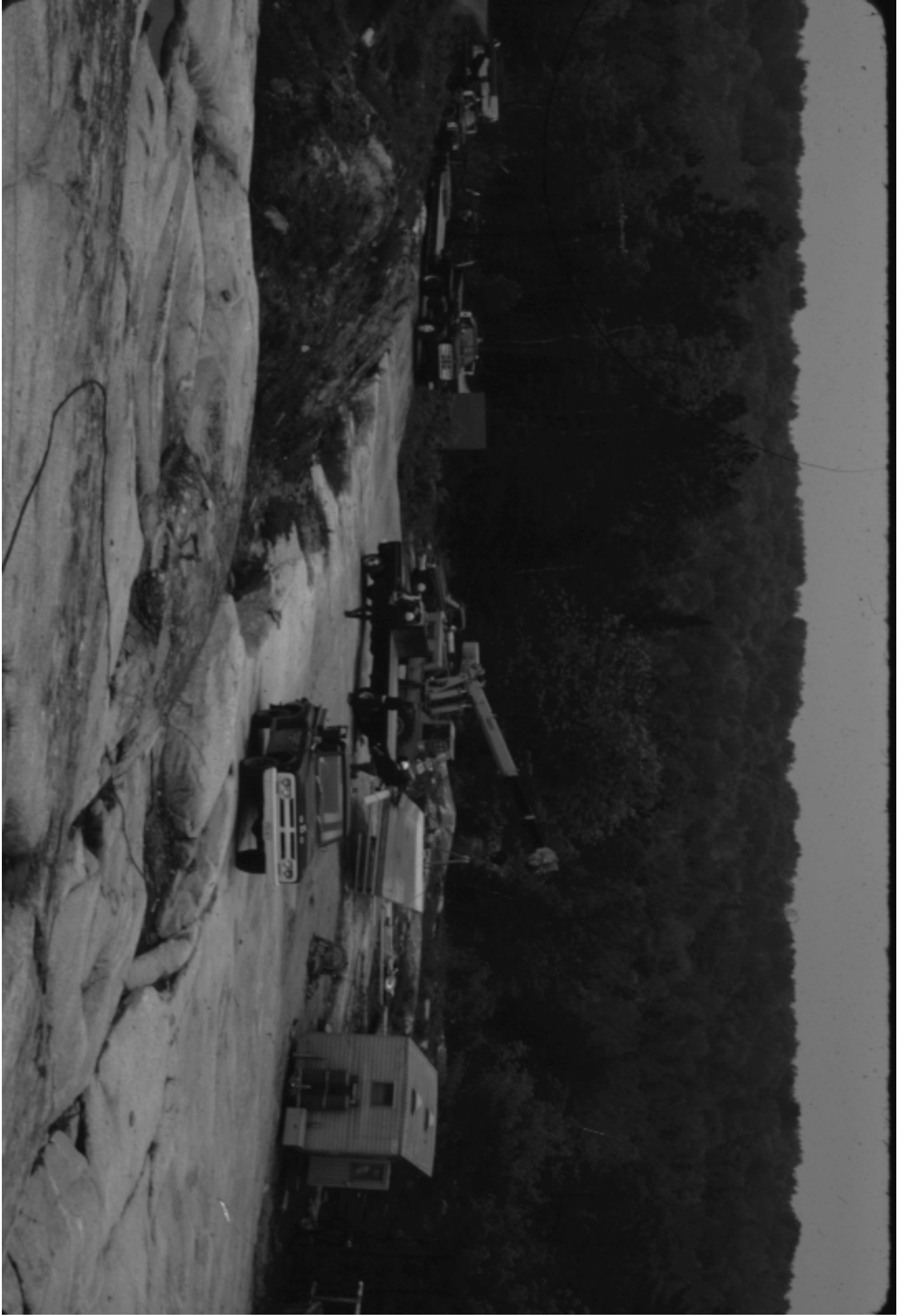


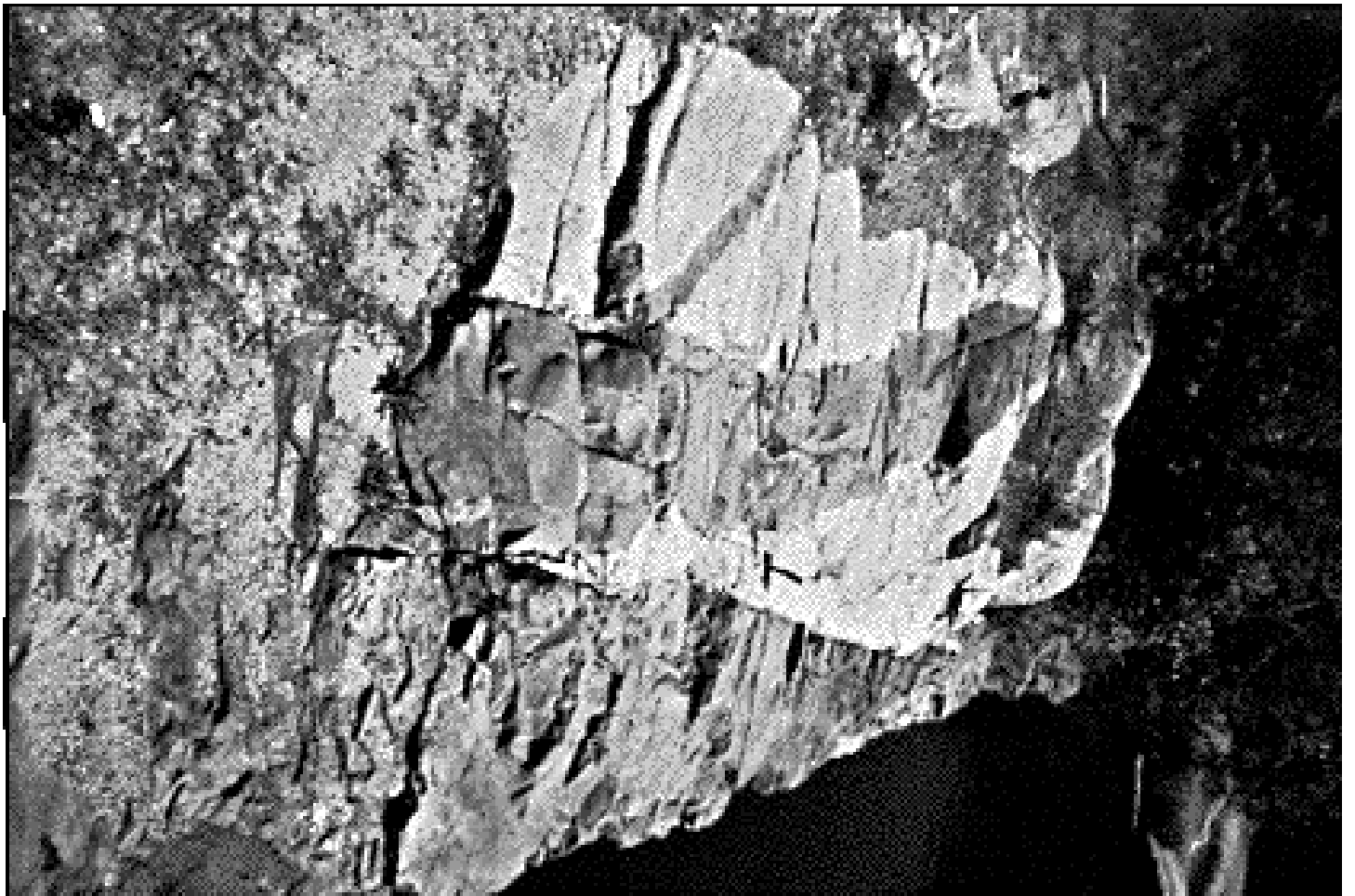
"...to protect human health and to safeguard the natural environment..."





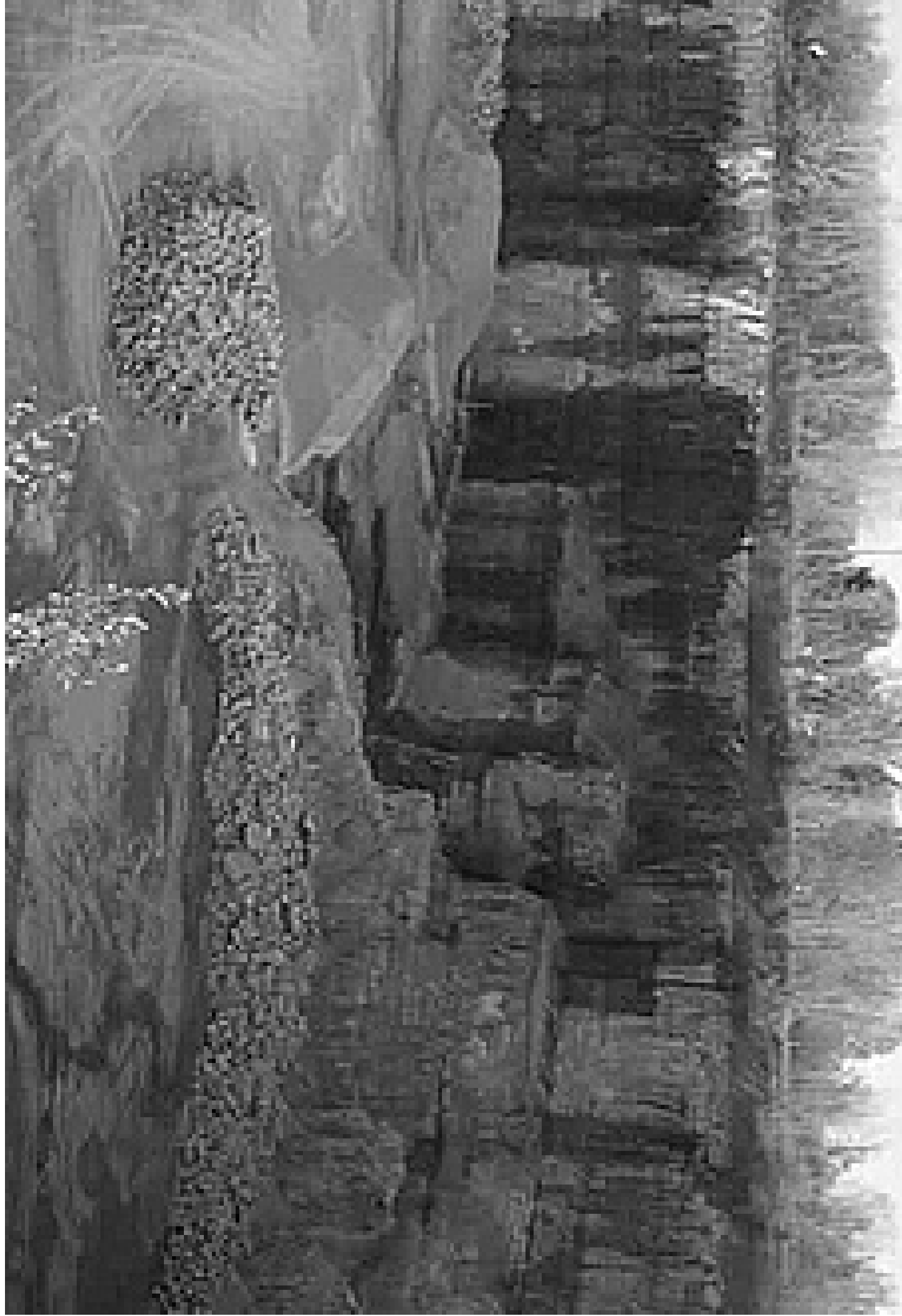












Introduction

- An accurate conceptual model is required to:
 - Develop an appropriate remedial program
 - Predict offsite migration
 - Conduct risk analyses

Introduction

- Failure to develop an appropriate conceptual model results in:
 - Increased likelihood of failure for remedial program
 - Higher or even unknown uncertainty in risk analysis
 - Repeated site characterization efforts
 - Much higher costs, wastage of site characterization expenditure

Introduction

- Considerable thought given to site characterization by EPA
- EPA and ASTM guides for site characterization not specifically developed for fractured rock
- Limited information in textbooks

Introduction

- Site characterization for fractured rock more costly than for porous media (drilling costs)
- Present expenditures on fractured rock sites are more typical of what might be spent on porous media

Physical and Chemical Characterization

- Kent Novakowski
 - Fractures, velocity, hydraulic head
- Allen Shapiro
 - Hydraulics, geochemical sampling
- Jack Guswa
 - FLUTE System

Panel Discussion