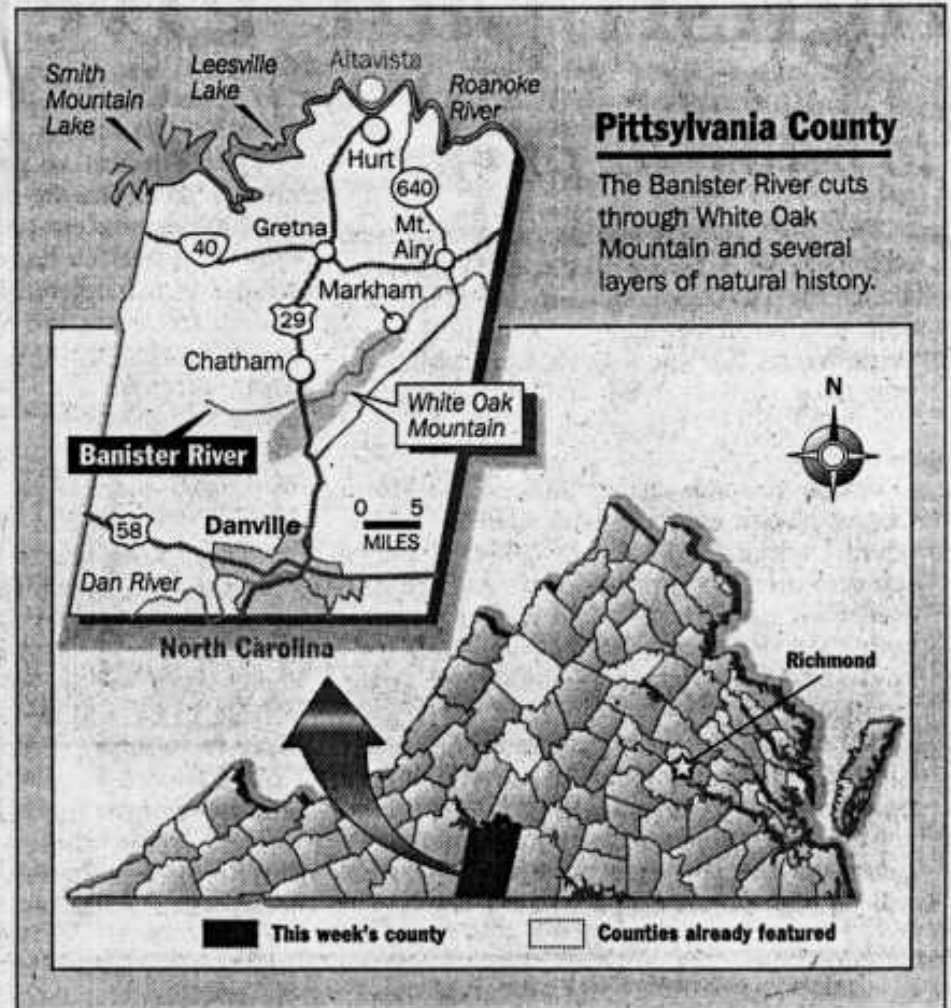
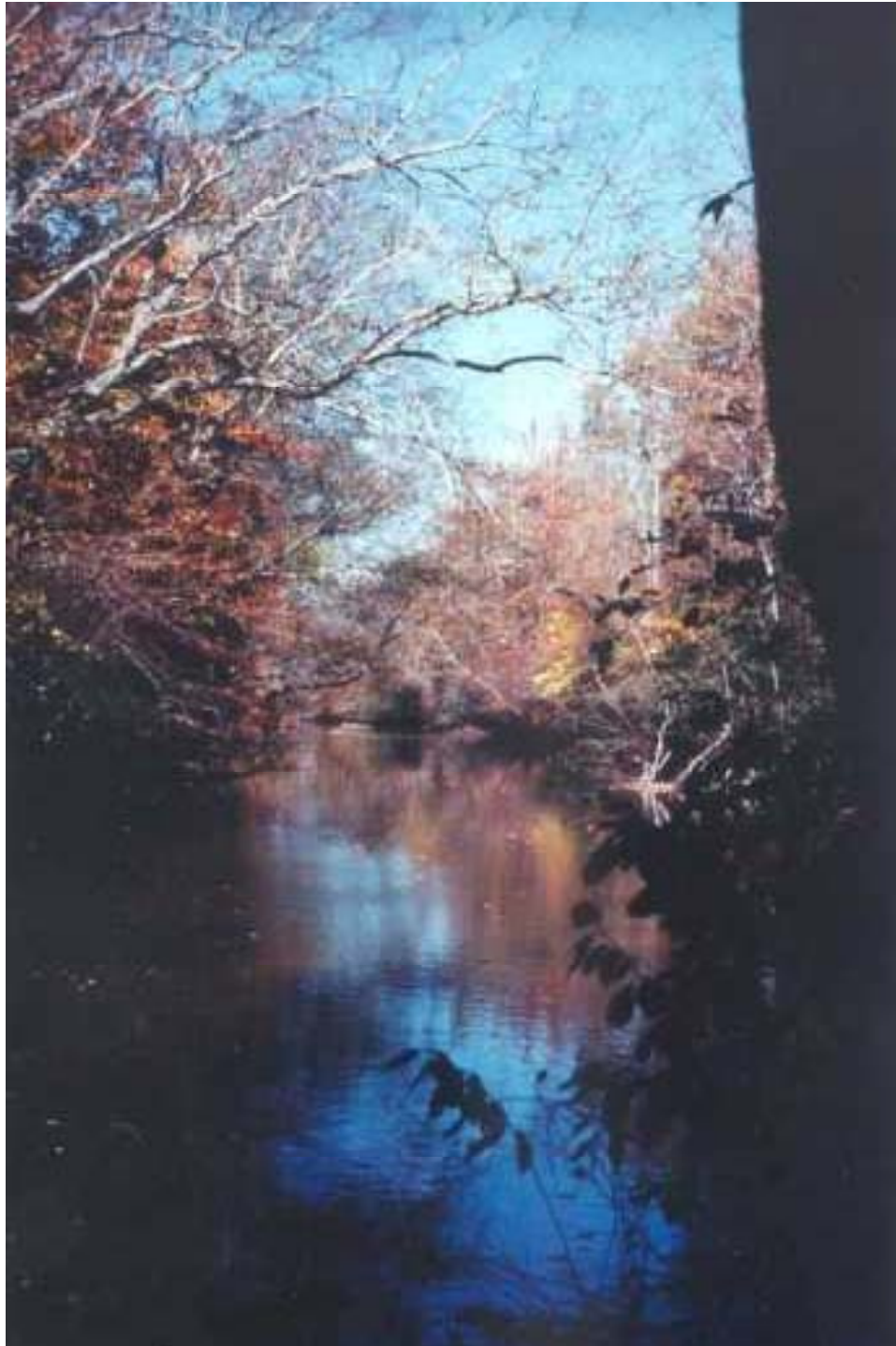


# Primer on Legal Issues



Southern  
Environmental  
Law Center

# Why (& Where) the Current Controversy?



# Types of mining



## Open Pit --

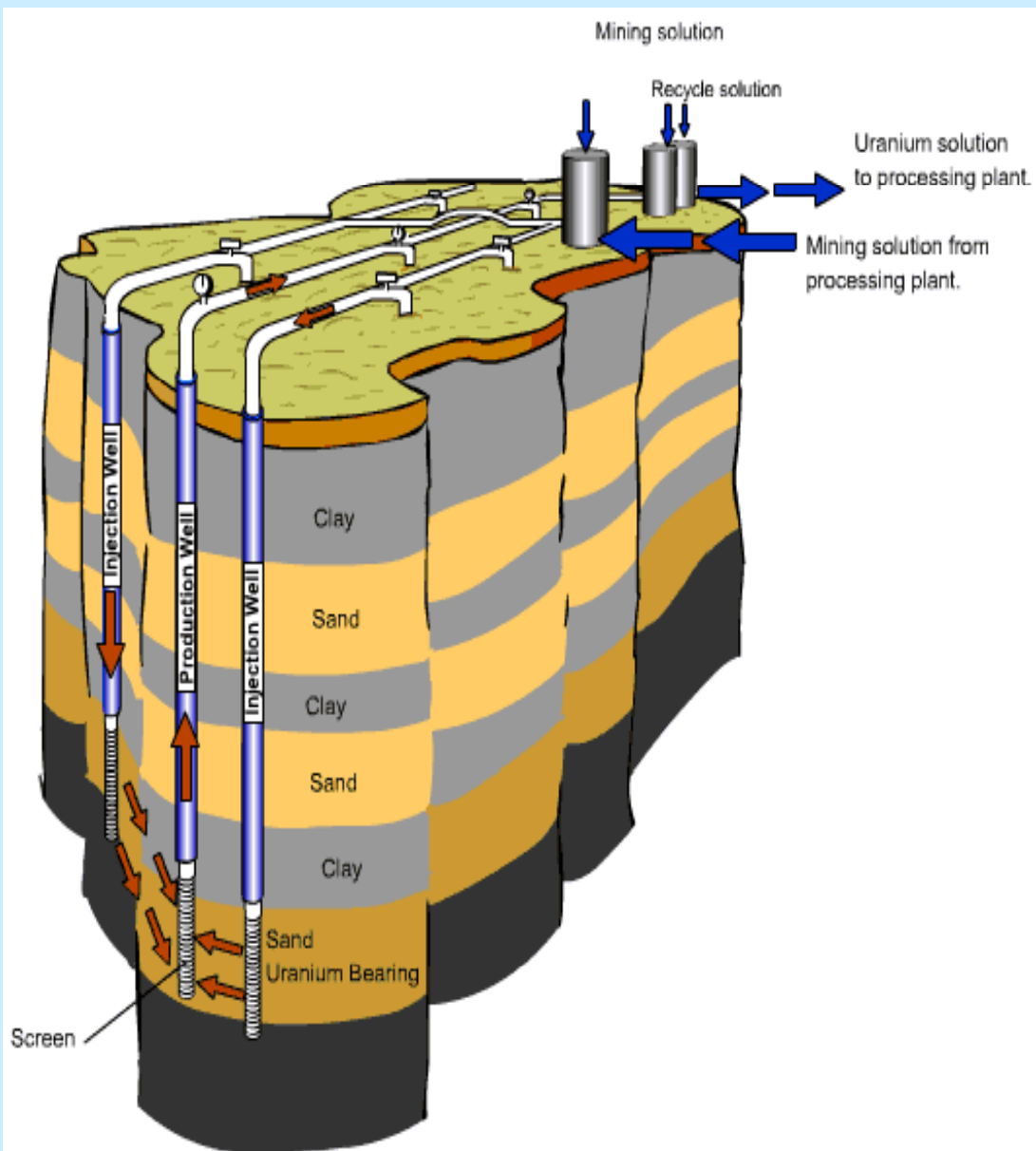
- Creates “overburden” left- over rock, soil, waste.
- According to EPA, amt of ore extracted compared to overburden averages 1:30.
- Last open pit mine closed in 1992 (Wyo.)

## Underground –

- Ore brought to surface by elevators or trolley systems
- Ratio of ore to waste much lower (1 to 1.5) because waste placed in mine.
- Expensive



## In Situ Mining Leachate



- **Combines mining and milling and thus is regulated by NRC**
- **Inject wells deep into Earth's core, & pump leaching substance**
- **Leaching dissolves ore, which can be extracted**
- **Approx. 4 ISL Plants – Tx, Neb, Wyo.**

# How is Ore Used?

- Raw uranium ore is mined and then milled (processed) in plants:
  - Concentrated into “yellow cake.”
  - Sent to other plants to refine to fuel by compaction.
  - Left-over waste are “Tailings.”



# What Happens with Tailings and “TENORM”?

- NRC regulates the disposal of tailings from milling under the 1978 Uranium Mill Tailing Radiation Control Act (UMTRCA) Currently one Mill in USA –Utah
- Leftover rock from mining (overburden)-Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM) is not regulated by federal government.
- NRC does not regulate conventional mining



# What does the Federal Government Regulate?

## **The Nuclear Regulatory Commission (NRC) under UMTRCA**

- Regulates disposal, long-term stabilization, and control of mill tailings.
- Regulates mill tailings according to EPA regulations.
- Regulates transportation, storage and disposal of nuclear material.
- Does not regulate mining waste (overburden)

**UMTRCA** provides for eventual Federal or **state ownership** of mill and disposal sites licensed by NRC and requires a long range Management Plan

## **The Environmental Protection Agency (EPA)**

- Regulates stormwater discharges from mines
- Develops regulations regarding mill tailings under Uranium Mill Tailing Reduction Act (UMTRCA) but NRC regulates.

## **States Can Take Over Federal Role By Becoming “Agreement States”**

- **NRC allows state to take over the federal role of regulating nuclear waste as state has same or better regulations than NRC.**
- **Virginia is “agreement state” for sources material, special nuclear and all byproducts except for uranium mill tailings.**
- **1985 VA Coal & Energy Comm’n Report recommended that Virginia become an “Agreement State” for uranium milling if moratorium lifted.**
- **Current “Agreement” States regulating uranium milling include:**
  - **Colorado**      --**New Mexico**
  - **Arizona**      --**Utah**
  - **Texas**

**Pittsylvania County**



## **Current Status: NAS STUDY PROCESS UNDERWAY**

**Va. Coal and Energy Commission  
& Its Uranium Subcommittee  
with assistance of VT Is**



- **Overseeing study by National Academy of Sciences**
  - Nominations for Study Panel
  - Study to take 18 months
- **Socio-Economic Study**
  - Scope not yet set
  - Funding not yet determined

## NAS Study Purpose

Uranium mining in the Commonwealth of Virginia has been prohibited since 1982 by a state moratorium

### Study Purposes:

- . . . . study will examine the scientific, technical, environmental, human health and safety, and regulatory aspects of uranium mining, milling, and processing
- . . . . to determine whether **uranium mining, milling, and processing** can be undertaken in a manner that safeguards the environment, natural and historic resources, agricultural lands, and the health and well-being of its citizens.

- 1) Assess the potential short- and long-term **occupational and public health and safety** considerations from uranium mining, milling, processing, and reclamation . . .
- 2) Review global and national uranium **market trends**.
- 3) Identify and briefly describe the main **types of uranium deposits** worldwide . . . .
- 4) Analyze the **impact of uranium mining, milling, processing, and reclamation operations on public health, safety, and the environment at sites with comparable geologic, hydrologic, climatic, and population characteristics to those found in the Commonwealth**. Such analysis shall describe any available mitigating measures to reduce or eliminate the negative impacts . .
- 5) Review the **geologic, environmental, geographic, climatic, and cultural settings and exploration** status of uranium . . .
- 6) Review the **primary technical options and best practices** approaches for uranium mining, milling, processing, and reclamation . . including discussion of improvements made since 1980 in the design, construction, and monitoring of tailings impoundments . . .

7) Review the state and federal **regulatory framework** . . .

8) Review **federal requirements** for secure handling of uranium materials. . . .

9) Identify the issues that may need to be considered regarding the **quality and quantity of groundwater and surface water**, and the quality of soil and air . . . water and waste management and severe weather effects or other stochastic events may also be considered.

10) . . . potential **ecosystem** . . . .

11) . . . baseline data and approaches necessary **to monitor environmental and human impacts** . . . .

12). . . a non-technical summary of the report for public education purposes (for example, health and safety issues, inspection and enforcement, community right-to-know, emergency planning).

- **By addressing these questions, the National Academy study will provide independent, expert advice that can be used to inform decision makers about uranium mining & milling in Va.**
- **The study will NOT make recommendations about whether or not uranium mining should be permitted nor will the study include site-specific assessments.**
- **City of Virginia Beach hired an engineering firm to conduct a “worst case scenario” assessment of potential impacts of “probable maximum precipitation” storm event on Lake Gaston water supply. This will be a site specific study.**
- **Danville Regional Foundation planning a socio-economic study focusing on regional issues.**



## **Some Questions for Today:**

- **What studies can you point to that deal with health and environmental impacts of uranium mining and milling in sites developed since 1978?**
- **Do you know about the records of other mining/milling areas that are similar to VA -- high rainfall & low evaporation rates, frequent storm events; greater population density than western mining areas?**
- **How could mining affect the Roanoke River Basin which provides drinking water for many in NC and VA, including Virginia Beach & Norfolk?**
- **What economic impacts might mining and milling have on Pittsylvania and nearby communities, and the Commonwealth?**
- **What issues must we understand about the long term ownership and responsibility for any mining and milling sites by the state or federal government?**
- **What are the likely costs of long term management and what amount of bond or surety can ensure long term care and protect against catastrophic events or corporate bankruptcy?**